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65TH CONGRESS }  
2d Session }

HOUSE OF REPRESENTATIVES

{ DOCUMENT  
No. 486

# STATEMENT OF EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE

FOR THE FISCAL YEAR  
ENDED JUNE 30

1917



DECEMBER 4, 1917.—Referred to the Committee on Expenditures in the  
Department of Agriculture and ordered to be printed

WASHINGTON  
1917



## LETTER OF TRANSMITTAL.

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DEPARTMENT OF AGRICULTURE,  
Washington, December 3, 1917.

SIR: As required by section 529, Revised Statutes, and the act of March 3, 1885 (23 Stat. L., 356), I have the honor to transmit herewith a detailed statement of expenditures of the Department of Agriculture for the fiscal year ended June 30, 1917.

A copy of this report has also been transmitted to the President of the Senate.

Very respectfully,

D. F. HOUSTON, *Secretary.*

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

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# EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

## OFFICE OF THE SECRETARY.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.				Equipment.		
	Statutory.	Lump fund.		Total.	Travel, station, and field expenses.	Apparatus, instruments, laboratory.	Furniture.
		In Wash- ington.	Out of Washington.				
1 Secretary's office.....	\$67,435.13	\$5,251.72	\$2,770.17	\$75,457.02	\$10,598.63	.....	\$1,141.95
2 Assistant Secretary's office.....	11,308.05	.....	.....	11,308.05	939.00	.....	40.25
3 Solicitor's office.....	93,595.66	.....	.....	93,595.66	.....	.....	111.85
4 Disbursing office.....	43,675.64	.....	.....	43,675.64	.....	.....	283.58
5 Library.....	30,960.32	2,065.21	.....	33,025.53	.....	.....	1,408.60
6 Chief clerk's office.....	123,576.01	7,801.77	600.00	131,977.78	.....	.....	367.66
7 Mechanical superintendent's office.....	83,416.41	1,907.86	.....	85,324.27	38.75	.....	637.34
8 Total.....	453,967.22	17,026.56	3,370.17	474,363.95	11,576.38	.....	3,483.01
Office of Farm Management:							
9 Administration.....	24,253.49	5,974.63	.....	30,228.12	216.10	\$2,191.99	232.82
10 Farm economics.....	19,146.53	40,678.07	.....	59,824.60	10,715.62	750.50	585.25
11 Farm organization.....	13,214.86	73,319.79	43,010.39	129,545.04	24,578.46	1,249.50	814.75
12 Clearing and utilization of logged-off lands.....	3,630.00	.....	.....	3,630.00	526.20	.....	.....
13 Total.....	56,614.88	123,602.49	43,010.39	223,227.76	36,036.38	4,191.99	1,632.82
Grand total.....	510,582.10	140,629.05	46,380.56	607,591.71	47,612.76	4,191.99	5,115.83

## PROJECT STATEMENTS.

### SECRETARY'S OFFICE.

Total expenditures as above.....	\$104,990.73
Outstanding liabilities, Aug. 31 (estimated) .	1,753.05
Unexpended balance (estimated).....	7,565.51
Total allotment.....	<u>114,309.29</u>

The Secretary of Agriculture administers the work of promoting agriculture in its broadest sense. He exercises general supervision and control over the affairs of the department and formulates and establishes the general policies to be pursued by its various branches.....

The following offices report directly to the Secretary's office:

Information: Prepares for dissemination, by means of notices to the press and otherwise, valuable agricultural information secured from publications of the department, or through oral statements of its scientists and specialists, with a view to the adoption of the methods recommended by the department.....

Inspection: Handles personnel matters; is charged with the accounting and administrative examination of claims and the preparation of financial reports involving appropriations under the Office of the Secretary; and assists in the fiscal operations of the bureaus.....

Exhibits: Assists in the preparation of agricultural material for exhibition purposes at fairs and expositions of various kinds, and ships, installs, cares for, and demonstrates such exhibits.....

Forest appeals: Considers appeals from the decisions of the Forest Service affecting land claims and land classification matters.

\$1,075.17

Total..... 106,743.78

### ASSISTANT SECRETARY'S OFFICE.

Total expenditures as above.....	\$12,419.45
Outstanding liabilities, Aug. 31 (estimated) .	8.80

Total allotment..... 12,428.25

The Assistant Secretary of Agriculture becomes Acting Secretary in the absence of the Secretary and assists in the general supervision of the work of the department.

12,428.25

### SOLICITOR'S OFFICE.

Total expenditures as above.....	\$95,483.94
Outstanding liabilities, Aug. 31 (estimated) .	17.94

Total allotment..... 95,501.88

The Solicitor is charged by law (act of May 26, 1910) with the direction of the legal work of the department. Accordingly, he acts as legal adviser to the Secretary and the heads of the several branches of the department, conducts the law work, and represents the department in all legal matters. He approves, in advance of issue, all orders and regulations promulgated by the Secretary under statutory authority.....

95,501.88

# EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

## OFFICE OF THE SECRETARY.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, and electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellane- ous supplies, services, etc.	Total.		
\$5,643.11 6.50 284.09 446.25 61.34 1,557.81 69.43		\$108.62 ..... ..... ..... ..... ..... .....	\$2,653.04 ..... ..... ..... ..... ..... ..... .....			\$4.25 ..... ..... ..... ..... ..... ..... .....		\$6,621.68 21.05 408.96 267.65 349.28 1 \$1,374.91 2 7,937.49	\$104,990.73 12,419.45 95,483.94 46,081.72 44,320.21 296,045.57 141,740.41	1 2 3 4 5 6 7	
8,068.53	123,328.84	5,036.62	2,854.97	7,819.91	2,071.41	28,471.60	9,312.40	34,590.76	741,582.03	8	
1,183.26 663.34 336.66 1.25		360.42 175.42 267.83 2.30	111.35 23.58 93.25				264.67	1,625.75 300.00 255.00	36,672.21 73,038.31 157,582.99 4,159.75	9 10 11 12	
2,184.51	442.50	805.97	223.18					1 264.67	2,180.75	271,453.26	13
10,253.04	123,771.34	5,842.59	3,083.15	7,819.91	2,071.41	28,471.60	9,577.07	36,771.51	1,013,035.29		

<sup>1</sup> Cleaning and toilet supplies.

<sup>2</sup> Electricians', engineers', and mechanics' supplies.

## DISBURSING OFFICE.

Total expenditures as above.....	\$46,081.72
Outstanding liabilities, Aug. 31 (estimated). .	228.03
Unexpended balance (estimated). .	1,244.36
 Total allotment.....	 47,554.11

This office keeps appropriate ledgers relating to the advance and disbursement of all items of appropriation and makes payment of all vouchers and accounts properly certified by the various branches of the department.....	46,309.75
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## LIBRARY.

Total expenditures as above.....	\$44,820.21
Outstanding liabilities, Aug. 31 (estimated)...	3,756.56
Unexpended balance (estimated).....	943.23
 Total allotment.....	 49,520.00

The library purchases all books and periodicals and supervises their arrangement and cataloguing; prepares for publication bibliographies of special subjects, and has charge of the foreign mailing lists for the department publications.....	48,576.77
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## CHIEF CLERK'S OFFICE.

Total expenditures as above.....	\$296,045.57
Outstanding liabilities, Aug. 31 (estimated).....	2,457.02
Unexpended balance (estimated).....	16,297.59
 Total allotment.....	 314,800.18

Distributed among the several subactivities as follows:

Chief clerk's office proper: The chief clerk has general supervision of the clerks and employees, of the correspondence files and records of the Secretary's office, and of expenditures from appropriations for miscellaneous expenses, rent of buildings in the city of Washington, etc. He is responsible for the enforcement of the general regulations of the department and is custodian of the buildings. This project includes work of the time clerk, operation of the telephones and telegraph, and provision for miscellaneous supplies and services for the department as a whole.....

\$46,754.41

Appointment clerk's office: Prepares all papers relating to appointments, transfers, promotions, reductions, details, furloughs, and removals; keeps personal records of employees, etc.....

15,342.18

Supply section: Purchases stationery and miscellaneous supplies for the Office of the Secretary and the various bureaus; receives and disposes of, by sale or otherwise, all property turned in by the bureaus and offices when of no further use; and sells unused samples of products secured in connection with the enforcement of the food and drugs act and the insecticide act.....

19,423.10

Mail and files: Receiving, recording, and distributing mail for the Office of the Secretary; indexing, copying, filing, and dispatching correspondence of that office; includes department post office, which receives, distributes, and dispatches all mail handled between the city post office and the several bureaus.....

15,511.84

Watch force: Protects and watches 26 buildings occupied by the department in three shifts, covering the entire 24 hours.....	\$49,988.68	Power house: Supervision of the engineers, and firemen, except those of the Weather Bureau, and provision of heat, light, power, and electricity for all buildings of the department in Washington except those occupied by the Weather Bureau and the Forest Service.....	\$50,363.89
Char force: Provides for cleaning and keeping in sanitary condition the halls and toilets of the department buildings and the cleaning of rooms in the different units of the Office of the Secretary.....	18,522.78	Mechanical force: Maintenance of mechanical shops for the repair and upkeep of the buildings, laboratories, and equipment, including electrical, carpenter, and cabinet work, plumbing, painting, rubber-stamp making, and operation of elevators.....	93,501.40
Stables: Feeding, care, and driving of the horses and care of vehicles used by the Office of the Secretary and the Division of Publications.....	9,630.76		
Rent in the District of Columbia for the various bureaus and offices of the department.....	123,328.84		
<b>Total.....</b>	<b>298,502.59</b>	<b>Total.....</b>	<b>143,865.29</b>
<b>MECHANICAL SUPERINTENDENT'S OFFICE.</b>			
Total expenditures as above.....	\$141,740.41	OFFICE OF FARM MANAGEMENT.	
Outstanding liabilities, Aug. 31 (estimated).....	2,124.88	<i>Administration.</i>	
<b>Total allotment.....</b>	<b>143,865.29</b>	Total expenditures as above.....	\$36,672.21
Distributed among the several subactivities as follows:		Outstanding liabilities, Aug. 31 (estimated).....	400.00
		Unexpended balance (estimated).....	1,511.95
		<b>Total allotment.....</b>	<b>38,584.16</b>

## WEATHER BUREAU.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.					Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.			Total.		Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.	Total.						
1 Administration.....	\$45,720.00			\$45,720.00	\$1,570.52					
2 Collection and dissemination of meteorological, climatological, and marine information.....	275,418.41	\$24,033.80	\$706,768.83	1,006,221.04	25,972.69	\$15,363.08	\$672.70	2,993.99	\$2,418.90	
3 Investigation and research.....	10,250.28	19,679.76	15,512.20	45,442.24	2,358.81	452.62	247.85		21,986.88	
4 Construction of building at Cape Henry, Va.....									908.12	
<b>Total.....</b>	<b>331,388.69</b>	<b>43,713.56</b>	<b>722,281.03</b>	<b>1,097,383.28</b>	<b>29,902.02</b>	<b>15,815.70</b>	<b>3,914.54</b>		<b>25,313.90</b>	

## PROJECT STATEMENTS.

## GENERAL ADMINISTRATION.

Total expenditures as above.....	\$65,275.76
Outstanding liabilities, Aug. 31 (estimated).....	24.70
Unexpended balance (estimated).....	199.54
<b>Total allotment.....</b>	<b>65,500.00</b>

Direction of the policy and business of the bureau and supervision of its scientific activities.....	65,300.46
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## COLLECTION AND DISSEMINATION OF METEOROLOGICAL, CLIMATOLOGICAL, AND MARINE INFORMATION.

Total expenditures as above.....	\$1,527,078.88
Outstanding liabilities, Aug. 31 (estimated).....	59,458.93
Unexpended balance (estimated).....	7,722.19
<b>Total allotment.....</b>	<b>1,594,260.00</b>

Distributed among the several subactivities as follows:  
Forecasts and warnings: Taking, recording, enciphering, telegraphing, and compiling regular meteorological observations, and caring for and maintaining the instrumental equipment therefor; issuing weather forecasts twice daily, including

frost, cold-wave, storm, and small-craft warnings at the district forecast centers for their respective districts as follows: Washington (D. C.) district: Maine, New Hampshire, Vermont, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, West Virginia, Kentucky, Tennessee, Ohio, Indiana, and Michigan, and the upper and lower Lakes; Chicago (Ill.) district: Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, North Dakota, Montana, and Wyoming; Denver (Colo.) district: Colorado, New Mexico, Arizona, and Utah; San Francisco (Cal.) district: California and Nevada; Portland (Oreg.) district: Washington, Oregon, and Idaho; and New Orleans (La.) district: Louisiana, Arkansas, Texas, and Oklahoma; issuing special wind forecasts in connection with forest-fire prevention, shippers' forecasts, and other special forecasts in the interests of manufacturing, commerce, and agriculture, at selected stations; preparing daily weather forecasts at selected stations for their immediate vicinity; also printing the same or

## STATEMENT OF EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

7

Planning and directing farm-management and farm-practice investigations, and the clerical routine incident thereto..... \$37,072.21

## Farm economics.

Total expenditures as above..... \$73,038.31  
Outstanding liabilities, Aug. 31 (estimated)..... 250.00  
Unexpended balance (estimated)..... 2,623.43

Total allotment..... 75,911.74

Detailed studies of the relation of farm income to factors of production, including cost-accounting investigations, farm-management surveys, study of farm equipment, investigations of tenant farming, the relation of farm practice to yields, the relation of geographic factors to farm enterprises, investigations of hay making and utilization, farm bookkeeping, etc..... 73,288.31

## Farm organization.

Total expenditures as above..... \$157,582.99  
Outstanding liabilities, Aug. 31 (estimated)..... 300.00  
Unexpended balance (estimated)..... 8,431.11

Total allotment..... 166,314.10

Regional investigations of the practice, organization, and administration of individual farms, and studies of types and systems of farming, with a view to enable farmers to improve their systems of farm management..... 157,882.99

## Clearing and utilization of logged-off lands.

Total expenditures as above..... \$4,159.75  
Unexpended balance..... 840.25

Total allotment..... 5,000.00

The working out of methods for clearing logged-off lands and their utilization for agricultural and dairying purposes..... 4,159.75

## WEATHER BUREAU.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.	
\$2,106.38 38,749.81	\$84,763.08	\$2,512.25 254,506.06	\$11,479.33	\$4,056.89	\$69.98	\$520.00 11,152.52	\$1,608.80 8,665.80	\$8,146.21 41,097.73	\$65,275.76 1,527,078.88	1 2
5,560.18	2,314.75	1,360.34	127.70	625.70		912.70	210.72 2,604.90	2,618.64	63,140.37 2,604.90	3 4
46,416.37	87,077.83	258,378.65	11,607.03	4,682.59	69.98	12,585.22	13,090.22	51,862.58	1,658,099.91	

<sup>1</sup> Printing, engraving, lithographing, and binding, \$4,475.85; mechanics', engineers', and electricians' supplies, \$2,616.20; cleaning and toilet supplies, \$3,104.12; subsistence and care of animals, \$240.50; advertising and publication of notices, \$48.65; land, \$1,709.15; structures and parts and nonstructural improvements to land, \$895.75.

issuing by other means, and disseminating by maps, bulletins, and by telegraph and telephone messages; preparing reports for the press of weather synopses, forecasts, and full and complete information concerning the current local weather condition in all their phases.....

River and flood forecasting: Developing and improving methods of river and flood forecasting; establishing and maintaining river-gauging stations and substations which observe and report rainfall, river stages, and like conditions; disseminating flood information to the public, especially to the parties and interests most directly benefited thereby.....

Climatological work: Collecting, compiling, charting, and discussing climatological data of the United States; printing and promptly disseminating the information to the public, to commercial exchanges, and to all parties and organizations interested in or benefited by the service that can be promptly reached by the usual means of communication available; collecting, compiling, and furnishing to the Hydrographic Office, for publication, marine meteorological and climatological data.....

\$978,370.40

170,417.60

351,642.27

Agricultural meteorology: Collecting and disseminating information relative to the effect of weather and climate on crops; during the crop season, from Apr. 16 to Oct. 31, collecting daily telegraphic reports from selected substations, reporting in the interests of cotton, corn, wheat, sugar, rice, tobacco, fruit, and other standard crops, for publication and dissemination to the public; issuing weekly summaries of weather and crop conditions to commercial exchanges and to all parties and organizations interested in or benefited by the service that can be promptly reached by the usual means of communication available..... \$76,403.27

Vessel reporting: Collecting and transmitting marine intelligence for the benefit of commerce and navigation..... 9,704.27

Total..... 1,586,537.81

## INVESTIGATION AND RESEARCH.

Total expenditures as above..... \$63,140.37  
Outstanding liabilities, Aug. 31 (estimated)..... 1,542.38  
Unexpended balance (estimated)..... 317.25

Total allotment..... 65,000.00

Distributed among the several subactivities as follows:

Improvement of instrumental equipment: Selecting, testing, improving, and designing instrumental apparatus for the scientific work of the bureau.....

Investigations of the problems of forecasting: Improving the accuracy of forecasts and formulating rules and enunciating principles in connection therewith.....

River and flood investigations: Improving methods of flood forecasting.....

Investigations in climatology: Determining more fully the climate of the entire United States, including its insular possessions.....

Aerological investigations: Studying upper-air conditions by means of kites and balloons for the purpose of fixing the general meteorological data in the whole atmospheric mass.....

Solar-radiation investigations: Determining the insolation received in heat units on a horizontal surface from the sun and sky under all sky conditions; determining the radiation received on a normal surface in gram calories; establishing normals for insolation; investigating the relation between polarization and insolation on clear days; determining the effect of atmospheric conditions on nocturnal radiation; and measuring the insolation received through ray filters under different conditions.....

An empirical determination of the relative values of evaporation in the United States: Determining under standard conditions of exposure the relative values of evaporation in various portions of the United States, and establishing the relation between the evaporation under the above standard conditions and the climatological factors that combine to bring it about.....

Meteorological investigations: Determining the nature of meteorological phenomena and the laws of their actions.....

Seismological investigations: Mapping the United States according to seismological activity and locating geological faults; studying in detail earthquake vibrations and drawing inferences therefrom in regard, on the one hand, to the scientifically important problem of the structure of the earth and, on the other, to the practical question of types of buildings best adapted to withstand seismic shocks.

	Investigations of the relation between climate and weather and plant development: Investigating the effect of current meteorological factors upon the growth of vegetation, the relation of climatological conditions to the growth of plants and the yield of crops, and the distribution of crop areas.....	\$1, 950.30		
	Ice-storm and sleet investigations: Improving and extending the issue of forecasts and warnings of the approach of ice storms and sleet, and collecting and publishing statistical data thereon showing distribution, frequency, and severity of ice storms, including details concerning the accompanying winds and other allied weather conditions, the thickness, weight, and damaging effects of ice coatings to vegetation, overhead-line construction, etc., so as to enable the Weather Bureau to meet the demands from telegraph and telephone companies, electric-power companies, horticulturists, students, etc., for information relating to such storms.....	4, 750.20		\$11, 212.98
		4, 137.50		
		3, 900.34		
		14, 270.70		387.75
		7, 250.00		6, 980.63
			Total.....	64, 682.75
			EDUCATIONAL WORK.	
			This work consists of instructions in meteorology by means of lectures and special courses, often according to definite schemes of cooperation between universities, colleges, and other educational institutions, and the local representatives of the Weather Bureau. No expense on the part of the department is entailed, all necessary facilities being furnished by the educational institutions concerned.	
			CONSTRUCTION OF BUILDING AT CAPE HENRY, VA.	
			Total expenditures as above.....	\$2, 604.90
			Unexpended balance (estimated).....	19, 895.10
			Total allotment.....	22, 500.00
			The site for a new building at Cape Henry, Va., has been purchased, the contract for the erection of the building awarded, and the construction work started.....	2, 604.90

*Distribution of Weather Bureau work and expenditures by stations.*

Station.	Character of work. <sup>1</sup>	Amount.	Station.	Character of work. <sup>1</sup>	Amount.
Abilene, Tex.....	a.....	\$2, 613.06	Boise, Idaho (section center).....	a, b, c, d, i.....	\$7, 871.21
Albany, N. Y.....	a, b.....	6, 893.85	Boston, Mass. (section center).....	a, c, d, i.....	23, 494.97
Alpena, Mich.....	a, b, e.....	4, 609.02	Buffalo, N. Y.....	a, i.....	13, 478.17
Amarillo, Tex.....	a, d.....	4, 182.50	Burlington, Vt.....	a, i.....	3, 818.61
Anniston, Ala.....	a.....	1, 733.14	Cairo, Ill.....	a, b.....	4, 924.08
Asheville, N. C.....	a.....	3, 259.08	Canton, N. Y.....	a.....	2, 298.02
Atlanta, Ga. (section center).....	a, b, c, d.....	12, 846.35	Cape Henry, Va.....	a, e, f.....	10, 130.68
Atlantic City, N. J.....	a.....	3, 055.91	Charles City, Iowa.....	a.....	2, 003.07
Augusta, Ga.....	a, b, c, d.....	6, 230.57	Charleston, S. C.....	a, b, c, d.....	7, 527.57
Baker, Oreg.....	a.....	1, 584.56	Charlotte, N. C.....	a, d.....	3, 971.55
Baltimore, Md. (section center).....	a, c, d, i.....	9, 951.62	Chattanooga, Tenn.....	a, b.....	8, 465.91
Bentonville, Ark.....	a.....	1, 512.92	Cheyenne, Wyo. (section center).....	a, c, d, i.....	7, 373.47
Binghamton, N. Y.....	a, b.....	4, 659.50	Chicago, Ill. (district forecast center).....	a, c, d, e.....	53, 955.39
Birmingham, Ala.....	a, d.....	5, 180.59	Cincinnati, Ohio.....	a, b.....	16, 280.98
Bismarck, N. Dak. (section center).....	a, b, c, d.....	8, 849.94	Cleveland, Ohio.....	a, i.....	11, 993.37
Bloc Island, R. I.....	a, e.....	3, 986.87			

<sup>1</sup> The letters in this column have the following meaning: a, meteorological observations and reports and daily weather forecasts; b, river and flood work; c, climatological work; d, agricultural meteorological work; e, maintenance of seacoast telegraph line in connection with forecasts and warnings and vessel reporting; f, vessel reporting; g, aerological investigations; h, solar-radiation investigations; i, educational work; k, general administration and supervision of work of the bureau.

## STATEMENT OF EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

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Distribution of Weather Bureau work and expenditures by stations—Continued.

Station.	Character of work.	Amount.	Station.	Character of work.	Amount.
Columbia, Mo. (section center)	a, c, d, i.....	\$4,735.82	North Head, Wash.....	a, e.....	\$3,018.79
Columbia, S. C. (section center)	a, b, c, d, i.....	7,506.35	North Platte, Nebr.....	a.....	2,948.62
Columbus, Ohio (section center)	a, b, c, d, i.....	15,155.13	Oklahoma, Okla. (section center)	a, b, c, d, i.....	12,916.39
Concord, N. H.....	a, b.....	3,121.16	Omaha, Nebr.....	a, b, c, d.....	8,911.57
Concordia, Kans.....	a.....	1,551.18	Oswego, N. Y.....	a.....	2,152.07
Corpus Christi, Tex.....	a.....	4,449.15	Palestine, Tex.....	a.....	2,756.73
Dallas, Tex.....	a, b.....	6,847.05	Parkersburg, W. Va. (section center)	a, b, c, d.....	6,813.78
Davenport, Iowa.....	a, b.....	6,562.50	Pensacola, Fla.....	a.....	6,321.47
Dayton, Ohio.....	a, b.....	6,186.43	Peoria, Ill.....	a, i.....	5,515.41
Del Rio, Tex.....	a, b.....	1,346.76	Philadelphia, Pa. (section center)	a, b, c, d, i.....	15,725.28
Denver, Colo. (district forecast and section center)	a, b, c, d, i.....	23,456.94	Phoenix, Ariz. (section center)	a, b, c, d, i.....	9,973.94
Des Moines, Iowa (section center)	a, b, c, d, i.....	8,597.37	Pierre, S. Dak.....	a.....	1,795.10
Detroit, Mich.....	a.....	11,422.39	Pittsburgh, Pa.....	a, b.....	15,352.08
Devils Lake, N. Dak.....	a.....	2,903.87	Pocatello, Idaho.....	a.....	1,603.32
Dodge City, Kans.....	a.....	1,839.58	Port Angeles, Wash.....	a, e, f.....	13,372.18
Drexel, Nebr.....	a, g.....	11,376.18	Port Arthur, Tex.....	a.....	2,320.92
Dubuque, Iowa.....	a, b.....	5,141.37	Port Huron, Mich.....	a.....	2,954.89
Duluth, Minn.....	a, d.....	9,370.00	Portland, Me.....	a, b.....	6,054.11
Eastport, Me.....	a.....	3,299.01	Portland, Oreg. (district forecast and section center)	a, b, c, d, i.....	30,529.86
Elkins, W. Va.....	a.....	3,002.09	Providence, R. I.....	a.....	6,349.85
El Paso, Tex.....	a.....	3,021.89	Pueblo, Colo.....	a, d.....	3,467.53
Erie, Pa.....	a.....	5,953.34	Raleigh, N. C. (section center)	a, b, c, d.....	12,966.87
Escanaba, Mich.....	a.....	2,823.09	Rapid City, S. Dak.....	a.....	2,067.29
Eureka, Cal.....	a.....	3,068.82	Reading, Pa.....	a.....	4,711.04
Evansville, Ind.....	a, b.....	6,918.59	Red Bluff, Cal.....	a.....	2,094.82
Fort Smith, Ark.....	a, b.....	5,061.03	Reno, Nev. (section center)	a, c, d.....	8,893.47
Fort Wayne, Ind.....	a.....	5,578.56	Richmond, Va. (section center)	a, b, c, d, i.....	8,952.33
Fort Worth, Tex.....	a, d.....	4,368.38	Rochester, N. Y.....	a.....	5,049.18
Fresno, Cal.....	a, b.....	7,132.32	Roseburg, Oreg.....	a.....	2,859.42
Galveston, Tex.....	a, d.....	6,378.28	Roswell, N. Mex.....	a, d.....	1,613.55
Grand Haven, Mich.....	a.....	2,142.96	Sacramento, Cal.....	a, b.....	6,421.52
Grand Junction, Colo.....	a, d.....	4,147.13	Saginaw, Mich.....	a, b, i.....	4,025.11
Grand Rapids, Mich. (section center)	a, b, c, d, i.....	8,828.23	St. Joseph, Mo.....	a.....	5,378.51
Green Bay, Wis.....	a.....	2,862.73	St. Louis, Mo.....	a, b, c, d, i.....	23,965.59
Hammond, Mo.....	a, b.....	3,410.34	St. Paul, Minn.....	a.....	3,938.73
Harrisburg, Pa.....	a, b.....	4,770.93	Salt Lake City, Utah (section center)	a, b, c, d, i.....	11,073.38
Hartford, Conn.....	a, b.....	2,821.43	San Antonio, Tex.....	a, d.....	5,646.85
Hatteras, N. C.....	a, e.....	2,073.09	San Diego, Cal.....	a.....	4,822.45
Havre, Mont.....	a.....	1,953.71	Sandusky, Ohio.....	a.....	4,676.81
Helena, Mont. (section center)	a, c, d, i.....	9,846.16	Sandy Hook, N. J.....	a.....	3,198.88
Honolulu, Hawaii (section center)	a, c, d.....	7,549.15	San Francisco, Cal. (district forecast and section center)	a, c, d, e, i.....	33,516.22
Houghton, Mich.....	a.....	3,438.17	San Jose, Cal.....	a.....	1,906.09
Houston, Tex. (section center)	a, b, c, d.....	18,940.56	San Juan, P. R., W. I. (section center)	a, c, d.....	3,951.10
Huron, S. Dak. (section center)	a, c, d, i.....	7,941.07	San Luis Obispo, Cal.....	a.....	1,896.95
Indianapolis, Ind. (section center)	a, b, c, d.....	14,366.99	Santa Fe, N. Mex. (section center)	a, c, d, h, i.....	6,821.33
Iola, Kans.....	a, b, c.....	1,975.51	Sault Ste. Marie, Mich.....	a.....	4,238.50
Ithaca, N. Y. (section center)	a, c, d, i.....	6,711.08	Savannah, Ga.....	a, c, d.....	8,872.17
Jacksonville, Fla. (section center)	a, c, d, i.....	14,767.42	Scranton, Pa.....	a.....	4,953.56
Juneau, Alaska (section center)	a, c.....	9,048.92	Seattle, Wash. (section center)	a, c, d, i.....	16,051.58
Kalispell, Mont.....	a.....	1,990.06	Sheridan, Wyo.....	a.....	2,530.00
Kansas City, Mo.....	a, b, c, d.....	12,976.55	Shreveport, La.....	a, b, d.....	4,580.49
Keokuk, Iowa.....	a, b.....	2,258.20	Sioux City, Iowa.....	a, b.....	4,711.41
Key West, Fla.....	a, e, f.....	7,958.51	Spokane, Wash.....	a.....	5,132.79
Knoxville, Tenn.....	a, b.....	5,708.75	Springfield, Ill. (section center)	a, c, d, i.....	8,979.49
La Crosse, Wis.....	a, b.....	4,296.70	Springfield, Mo.....	a, i.....	3,944.93
Lander, Wyo.....	a.....	1,748.45	Syracuse, N. Y.....	a, i.....	4,889.63
Lansing, Mich.....	a, i.....	4,915.74	Tacoma, Wash.....	a.....	4,462.07
Lewiston, Idaho.....	a.....	2,708.89	Tampa, Fla.....	a.....	4,567.98
Lexington, Ky.....	a.....	3,831.23	Tatooosh Island, Wash.....	a, e, f.....	3,278.77
Lincoln, Nebr. (section center)	a, c, d, h, i.....	10,042.56	Taylor, Tex.....	a, d.....	3,642.77
Little Rock, Ark. (section center)	a, b, c, d, i.....	10,989.75	Terre Haute, Ind.....	a, b.....	6,311.23
Los Angeles, Cal.....	a, d, i.....	11,306.59	Thomasville, Ga.....	a.....	1,946.46
Louisville, Ky. (section center)	a, b, c, d, i.....	15,143.56	Toledo, Ohio.....	a.....	5,854.80
Ludington, Mich.....	a.....	3,006.69	Tonopah, Nev.....	a, c, d, i.....	2,454.93
Lynchburg, Va.....	a.....	3,353.93	Topeka, Kans. (section center)	a, c, d, i.....	6,790.08
Macon, Ga.....	a, b.....	4,119.44	Trenton, N. J. (section center)	a, c, d, i.....	8,762.76
Madison, Wis.....	a, h, i.....	4,809.68	Valentine, Nebr.....	a.....	1,825.40
Marquette, Mich.....	a, b, c, d.....	3,624.70	Vicksburg, Miss. (section center)	a, b, c, d, i.....	9,066.34
Memphis, Tenn.....	a, b, d.....	4,380.47	Wagon Wheel Gap, Colo.....	a, c.....	5,420.47
Meridian, Miss.....	a, b, d.....	4,730.35	Walla Walla, Wash.....	a, d.....	3,421.83
Miami, Fla.....	a, c, d, i.....	3,101.41	Washington, D. C. (central office of the bureau and district forecast center)	a, b, c, d, e, f, g, h, i, k.....	343,877.84
Milwaukee, Wis. (section center)	a, c, d, i.....	11,868.36	Wausau, Wis.....	a, b.....	2,303.70
Minneapolis, Minn. (section center)	a, b, c, d, i.....	13,954.79	Wichita, Kans.....	a, b, d.....	5,675.21
Mobile, Ala.....	a, b, c, d.....	7,903.96	Williston, N. Dak.....	a.....	1,613.61
Modena, Utah.....	a.....	1,456.53	Wilmington, N. C.....	a, c, d.....	4,971.93
Montgomery, Ala. (section center)	a, b, c, d.....	7,653.14	Winnebago, Nev.....	a.....	1,965.75
Mount Weather, Va.....	a.....	2,413.53	Wytheville, Va.....	a.....	1,820.78
Nantucket, Mass.....	a.....	2,197.45	Yankton, S. Dak.....	a.....	1,695.22
Narragansett Pier, R. I.....	a, e.....	1,577.66	Yellowstone Park, Wyo.....	a.....	2,899.65
Nashville, Tenn. (section center)	a, b, c, d, i.....	12,265.16	Yuma, Ariz.....	a.....	1,725.38
New Haven, Conn.....	a, f.....	8,180.71	West Indian and Caribbean Sea stations.	a, c.....	23,443.90
New Orleans, La. (district forecast and section center)	a, b, c, d, i.....	29,865.79	Stores in stock.....	a, b, c, d, e, f, g, h, i, k.....	6,518.12
New York, N. Y.....	a.....	29,843.64	Total, Weather Bureau.....	a, b, c, d, e, f, g, h, i, k.....	1,719,125.92
Norfolk, Va.....	a.....	10,634.20			
Northfield, Vt.....	a, i.....	3,439.14			

## BUREAU OF ANIMAL INDUSTRY.

Classification of expenditures for the fiscal year ended June 30, 1917.

Project.	Salaries.			Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.			Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.					
1 Administration.....	\$93,793.46	\$22,100.60	.....	\$115,894.06	\$601.56	\$231.58	\$3,270.73	
2 Eradication and control of animal diseases.....	27,992.36	37,849.79	\$325,799.97	391,642.12	69,514.73	51.63	5,047.87	
3 Inspection and quarantine of imported animals, and export live-stock inspection.....	6,836.78	8,733.88	\$1,856.28	97,426.94	12,716.41	64.37	28.20	
4 Eradication of cattle ticks.....	16,351.36	5,433.76	368,235.29	390,020.41	122,446.24	.....	1,509.10	
5 Live-stock demonstration work in areas freed from cattle ticks.....	.....	900.00	30,531.03	31,431.03	15,478.51	27.00	.....	
6 Dairy investigations.....	24,324.73	101,650.83	102,568.88	228,544.44	36,013.18	1,118.34	360.13	
7 Animal husbandry investigations.....	16,723.11	42,792.82	84,622.13	144,138.06	16,129.00	141.40	101.25	
8 Investigations of animal diseases.....	37,312.16	41,385.98	24,266.89	102,965.03	5,729.96	1,042.37	427.25	
9 Construction of buildings at Bethesda and Beltsville, Md. ....	593.33	.....	2,129.63	2,722.96	.....	.....	.....	
10 Investigation, treatment, and eradication of hog cholera.....	9,059.12	16,419.16	117,849.99	143,328.27	40,386.52	373.75	344.63	
11 Control of the manufacture, importation, and shipment of viruses, serums, etc. ....	5,355.73	6,471.11	123,318.26	135,145.10	10,968.07	125.59	277.35	
12 Eradication of dourine.....	2,546.37	5,425.01	31,032.38	39,003.76	27,409.85	42.30	1,180.01	
13 Control of meat and meat food products.....	126,322.38	39,588.05	3,152,553.95	3,318,464.38	46,174.49	1,092.31	802.90	
14 Eradication of foot-and-mouth disease.....	150.00	.....	30,702.27	30,852.27	1,179.24	106.79	.....	
15 Live-stock production in cane-sugar and cotton districts.....	.....	.....	27,408.45	27,408.45	5,355.41	16.15	104.50	
16 Dairying and live-stock production in semiarid and irrigated districts.....	.....	1,125.83	9,460.72	10,586.55	2,047.98	.....	119.98	
Total.....	367,360.89	329,876.82	4,512,336.12	5,209,573.83	412,151.15	4,824.38	4,358.50	
							51,560.62	

## PROJECT STATEMENTS.

## ADMINISTRATION.

Total expenditures as above.....	\$123,798.94
Outstanding liabilities, Aug. 31 (estimated)	180.52
Unexpended balance (estimated)	1,956.54
Total allotment.....	125,936.00

Eradication of scabies in sheep: Cooperation with States in which scabies in sheep exists by providing quarantine measures to prevent the spread of this disease and by demonstrating proper treatment, including the cleaning and disinfection of cars, pens, and other premises, thereby fostering the industry and encouraging greater production of mutton and wool..

\$124,447.92

Eradication of mange (scabies) in cattle and horses: The object of this work and the methods employed are similar to those followed in the project on sheep scabies.....

63,093.82

Supervision of interstate transportation of live stock and inspection of southern cattle outside the quarantine area: Examination and inspection of all live stock unloaded at market centers and public stockyards where Federal inspection is maintained to determine the presence in any of the animals of diseases which might be communicated to animals in other States; also issuance of certificates covering interstate movement of animals free from disease or which have been treated under bureau supervision.....

169,034.60

Enforcement of the 28-hour law: Enforcement of the law requiring that animals being shipped interstate are unloaded for feeding, resting, and watering at least once in 28 hours, and that the animals are handled in a humane manner at stockyards where such unloading is performed.....

35,528.95

Supervision of the bureau activities and the performance of such duties as are common to the bureau as a whole, the cost of which can not be prorated readily against the various projects involved, such as accounting and editorial work, the purchase and distribution of supplies, and matters relating to the personnel.....	123,979.46
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ERADICATION AND CONTROL OF ANIMAL DISEASES.	
Total expenditures as above.....	\$482,296.34
Outstanding liabilities, Aug. 31 (estimated)	2,782.00
Unexpended balance (estimated)	3,694.02

Total allotment.....	488,772.36
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Distributed among the several subactivities as follows:	
Supervision: General direction of all work connected with the eradication and control of animal diseases and prevention of the interstate spread of these diseases; performance of duties connected with the general work of eradication, including correspondence with the public and conferences with other branches of the Government service.....	12,123.47

## BUREAU OF ANIMAL INDUSTRY.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellane- ous supplies, etc.	Total.	
\$1,501.28 528.12	\$123.00 3,150.84	\$572.94 1,069.51	\$589.82 1,284.95	\$4.80 .....	\$1,270.37 .....	.....	\$170.34 6,147.99	\$838.83 1,914.20	\$123,798.94 482,296.34	1 2
538.18	881.00	924.31	822.49	773.00	283.82	\$69.13	1,196.23	1,089.07	117,737.96	3
1,459.97	4,635.75	1,019.70 38.71	5,247.83 96.81	39.80 .....	.....	.....	3,641.32 .....	569.84 .....	538,802.41 47,072.06	4 5
1,151.84 1,287.37	3,330.00 1,593.00	570.33 511.45	1,007.70 1,830.95	1,246.62 1,417.48	2,785.28 21,504.14	766.62 1,152.50	4,341.51 17,336.04	2,927.22 8,749.28	290,099.49 220,775.80	6 7
977.36	1,145.00	158.75	980.74	297.39	17,969.54	889.91	8,688.61	8,358.70	155,771.99	8
.....	.....	.....	15.18	.....	.....	.....	19,727.16	100.97	22,566.27	9
505.49	499.97	422.50	1,512.86	238.36	4,622.47	26.11	18,753.59	1,247.84	214,349.62	10
596.13	1,017.67	532.20	745.36	.....	.....	.....	1,639.54	73.96	152,495.54	11
33.72 5,396.34	24,300.56	15.69 5,106.97	346.79 5,975.48	210.77 .....	3,536.16 235.24	.....	24,176.37 3,833.05	111.32 24,381.05	95,855.97 3,444,346.11	12 13
.....	20.00	38.14	60.43	.....	8,372.26	22.05	6,236.30	319.03	47,583.15	14
69.29	100.00	179.23	317.22	.....	4,726.23	371.89	10,961.97	5,070.41	57,327.15	15
6.08	.....	15.84	1,396.48	.....	177.78	.....	12,823.82	4,214.15	32,494.43	16
14,051.17	40,796.79	11,176.27	22,231.09	4,228.22	65,483.29	3,298.21	1 139,673.84	59,965.87	6,043,373.23	

<sup>1</sup> Subsistence and care of animals and storage and care of vehicles, \$18,158.80; mechanics', engineers', and electricians' supplies, \$5,518.28; cleaning and toilet supplies, \$758.42; structures and parts and nonstructural improvements to land, \$56,917.14; purchase of animals for experimental and control purposes, \$45,058.10; printing, \$13,263.10.

Inspection relative to existence of contagious diseases; investigation of alleged violations of the live-stock quarantine regulations; supervision of the inoculation of swine against hog cholera for interstate movement from public stockyards; control of animal diseases in Porto Rico; and control of glanders and scabies in horse stock in the District of Columbia.

Inspection and tuberculin testing of cattle and mallein testing of horses: inspection and tests to prevent the spread of tuberculosis of cattle and of glanders in horses and mules through interstate movement; to prevent the spread of tuberculosis in dairy herds and to provide milk supplies from cattle free from tuberculosis; to prevent the spread of tuberculosis among pure-bred breeding cattle, and to establish a public registry of pure-bred herds which have been shown to be free from tuberculosis, in order that breeders throughout the country may have assurances of the healthfulness of pure-bred cattle which they are purchasing for the improvement of their herds.

Preparation and distribution of tuberculin, mallein, and blackleg vaccine: Manufacture in the bureau laboratories of supplies of tuberculin and mallein for the testing of animals, and of blackleg vaccine for the prevention of blackleg in cattle, and distribution of these vaccines.

Investigation and chemical testing of dips and disinfectants: Chemical and bacteriological studies of dips and disinfectants and of methods of preparing

them, so as to insure the employment of properly compounded preparations in official dipping and disinfecting operations. .... \$3,408.20

Total. .... 485,078.34

## INSPECTION AND QUARANTINE OF IMPORTED ANIMALS, AND EXPORT LIVE-STOCK INSPECTION.

Total expenditures as above. .... \$117,737.96  
Outstanding liabilities, Aug. 31 (estimated) 695.49  
Unexpended balance (estimated) .... 3,403.33

Total allotment. .... 121,836.78

Distributed among the several subactivities as follows:

Supervision: General direction of the work of inspection and quarantine of imported animals and of export live-stock inspection and the performance of duties common to the whole work. .... 10,824.80

Inspection of animals for importation: Inspection at ports of entry and the establishment of quarantines, when necessary, with a view to prohibit the importation of diseased animals. .... 63,060.70

Quarantine of animals at ports of entry: Maintenance of quarantine stations for the detention, observation, and test of imported animals, with the object of preventing the introduction of animal diseases. .... 12,352.69

Supervision over importations of hay, forage, and of hides, hair, wool, and other animal by-products, to prevent the introduction of animal diseases. .... 19,718.92

\$1,316.89

50,735.41

25,389.08

Inspection and testing of animals for export to foreign countries, to insure freedom of export animals from disease.....	\$8,046.17	Cow-testing associations and cooperation with county agents in dairy work: Advice and assistance in the organization of cow-testing associations, with the object of increasing economically the average milk and butter production of the dairy cows in the United States and assisting county agents with general dairy work, such as silo and dairy building construction, feeding, care, and management of dairy cattle, special assistance at fairs, etc.....
Inspection of vessels carrying export animals, to provide for the safe transportation and humane treatment of export live stock.....	2,292.82	Community development in dairying: Determination of the practicability of the small community raising its economic status through the employment of a field instructor skilled in dairying.....
Investigation of methods of disinfecting hides: Determination of the best methods for the disinfection of hides, in order to prevent the introduction of infectious material.....	2,137.35	Investigations in cow-testing associations: Determination of the best form of cooperation for the development and increase in production of the dairy herds of the United States.....
<b>Total.....</b>	<b>121,836.78</b>	<b>2,172.83</b>
<b>ERADICATION OF CATTLE TICKS.</b>		
Total expenditures as above.....	\$538,802.41	Investigations in bull associations: Determination of the best form of cooperation and organization for the development of bull associations.....
Outstanding liabilities, Aug. 31 (estimated)	1,520.29	Holstein cattle breeding: Investigation in the production of cattle of this type suitable for conditions in the semiarid portions of the West.....
Unexpended balance (estimated).....	15,428.66	800.00
<b>Total allotment.....</b>	<b>555,751.36</b>	
Extermination of the ticks which spread the infection of splenetic fever of cattle, in cooperation with live-stock sanitary organizations in the States concerned....	540,322.70	
<b>LIVE-STOCK DEMONSTRATION WORK IN AREAS FREED FROM CATTLE TICKS.</b>		
Total expenditures as above.....	\$47,072.06	
Outstanding liabilities, Aug. 31 (estimated)	350.00	
Unexpended balance (estimated).....	2,577.94	
<b>Total allotment.....</b>	<b>50,000.00</b>	
Cooperation with county agents and with State officials in demonstrating to farmers the best means within their reach to improve and develop the live-stock industry and dairying in the areas freed from cattle ticks in the Southern States..	47,422.06	
<b>DAIRY INVESTIGATIONS.</b>		
Total expenditures as above.....	\$290,099.49	
Outstanding liabilities, Aug. 31 (estimated)	6,310.87	
Unexpended balance (estimated).....	6,409.64	
<b>Total allotment.....</b>	<b>302,820.00</b>	
Distributed among the several subactivities as follows:		
<i>Administration.</i>		
Administration: General direction of the Dairy Division work, including branch library, files, requisitions and accounts, dairy engineering, compilation and indexing, editorial and stenographic work, and stores.....	40,566.74	Farm butter making: Instruction to dairy farmers in Tennessee, Alabama, North Carolina, South Carolina, and Georgia in the art of butter making, with a view to improve the quality of the dairy butter produced; general advice and assistance in the interest of dairy development in that territory.....
<i>Dairy farming.</i>		
Supervision: General supervision and office correspondence and record work; compilation of material for use in field work and preparation of manuscripts.....	9,540.23	Creamery management investigations: Study of methods for improving the quality of milk and cream delivered to creameries and the quality of creamery butter, and for increasing the general efficiency of creameries.....
Southern dairying: The object of this work is to encourage the development of the dairy business by instruction and demonstration.....	17,800.12	Cheese factory investigations: Determination of the districts in which it would be feasible to encourage the manufacture of cheese, what is being done in the manufacture of cheese in districts other than the cheese centers, and particularly what kinds of cheese can be successfully and profitably manufactured in certain sections of the South; collection of data relative to methods used in the best managed factories; determination of the machinery most efficient for cheese factories.
Dairy demonstration farm: Operation of a dairy farm at Denison, Tex., for the purpose of demonstrating the practicability of reclaiming a worn-out cotton farm by dairying.....	132.04	1,595.84

Renovated-butter inspection: Inspection of renovated butter, the materials used in its manufacture, and the factories producing this product, as required by the act of May 9, 1902.....

Butter inspection for Navy Department: Daily inspection at plants manufacturing butter for the Navy Department to see whether the product complies with the specifications and thus to assist the department in securing first-class tinned and tub creamery butter and incidentally study the manufacture of butter for storage.....

*Dairy research laboratories.*

Supervision: General direction and office work of the dairy-research laboratories..

Investigations of the manufacture and handling of commercial ice cream, to determine methods and conditions necessary for the practical, economical, and sanitary manufacture of this product...

Changes in butter: Experiments to determine the factors which control the flavor, both desirable and undesirable, of butter, including studies of the methods of handling cream, pasteurization, ripening of cream, changes in butter in storage, and methods of renovating.....

Milk-condensing investigations: Investigations to secure a general knowledge of milk condensing, determine causes of spoilage, and develop logical methods of operation.....

Bacteriology of milk: Biological studies of the bacteria occurring in milk, their relation to one another and to similar groups occurring elsewhere, their physiology and action on the constituents of milk, their habitat and the means by which they get into milk, methods of preventing contamination, and means of destroying bacteria in milk.....

Physiology of milk secretion: Investigation of the mechanism of milk secretion and of the factors which control or influence this function, with a view to a more logical breeding and feeding of dairy cows.....

Utilization of creamery and cheese-factory by-products: Study of methods for the utilization of by-products of creameries and cheese factories by converting them into products which will be useful in the arts or available as food for man or animals.....

Disposal of dairy, creamery, and cheese-factory wastes: Investigation of methods for the proper disposal of the wastes of dairy farms, creameries, and cheese factories.....

Manufacture and ripening of Swiss cheese: Studies of the factors producing the peculiar chemical and physical changes which give Swiss cheese its desirable character, and the application of this knowledge to practice.....

Soft-cheese investigations: Investigation of the manufacture and ripening of certain European varieties of soft cheese, including a detailed study of the microorganisms active in their production; also the chemical determination of standards of composition with reference to the complex changes involved in the ripening processes as applied to American milk

\$7,385.72	and to the different climatic conditions encountered.....	\$6,606.60
	Cheddar-cheese investigations: Study of methods of securing a more uniform product, the extent of losses and means of prevention, and bacteriological and chemical factors involved in the development of desirable and undesirable flavors.....	210.00
	Silage investigations: Study of the changes which take place in the material put into the silo.....	1,971.53
771.72	Chemical investigations in the feeding of dairy cattle: Chemical work in connection with the feeding experiments conducted at Beltsville, Md.....	2,438.41

*Milk investigations and demonstrations.*

7,734.02	Supervision: General direction of the work of the section, answering correspondence, etc.....	2,543.35
2,936.10	Dairy sanitation investigations: Investigation of the sanitation of city milk supplies, factors influencing the commercial quality of milk, and means of producing and handling milk of a superior quality.	4,242.28
7,837.04	Cost of handling milk: Determination of the cost of handling milk in cities, including the cost of various operations in preparing milk for the market, with a view to avoid uneconomical methods and suggest ways of lessening the cost of handling	2,598.21
5,452.47	Cost of milk production: Determination of the actual cost of milk production on the average dairy farm, including an investigation of the increased cost attributable to modern sanitary methods and the variation in cost of milk production in different sections.....	5,769.00
7,022.10	Dairy sanitation extension: Educational work among dairymen and milk handlers with the object of unifying and making more efficient inspections carried on by State and municipal boards of health...	8,230.80

*Dairy Division experiment farm.*

5,330.86	Supervision: General direction of all work in dairying at the dairy experiment station.....	7,340.94
2,240.12	Breeding of dairy cattle: Study of the breeding of dairy cattle and application of the principles thus established.....	5,090.76
173.12	Feeding of dairy cattle: Study of the effects of the various feeds and constituents of feeds upon the animal body, upon growth, and upon the yield and composition of milk, and of the relative values of feeds for dairy production.....	3,959.09
6,600.28	Housing and care of dairy cattle: Determination of the best method of stabling cows, and investigations of problems in the milking and care of cows and in herd management.....	1,845.63
	Feed production: The production of feed for the dairy herd at the Beltsville farm; detailed records being kept of the cost of all farm operations and observations made on the building up of the soil by fertilization, tillage, and drainage.....	8,314.76
	Silage investigations: Determination of the advantages and disadvantages of the various materials used in building and preserving silos, the stage of maturity at which the corn plant should be siloed, and other silage problems.....	5.96

*Metabolism in dairy cows.*

Metabolism in dairy cows: Determination of the total energy of the feed consumed by milking animals, the losses of energy in the excreta, the expenditure of energy consequent upon the consumption of the feed, and, by difference, the net energy of the feed; and investigation of the distribution of this net energy of the feed between the two possible forms of production, viz, fattening and milk secretion, and the effect upon it of the quantity and quality of the feed, as well as of other factors.....

*Western dairy extension.*

Supervision: General direction of western dairy extension work, including correspondence and other clerical routine. Dairy farming: Instructions to farmers in the Western States in the feeding of dairy cattle, the raising of calves, construction of silos and dairy buildings, herd-record work, and the selection of pure-bred bulls, with the object of improving and developing the business of dairying in that section.....

Milk work: Educational work among dairymen and milk handlers, with a view to improve the milk supply and to unify and make more efficient inspections carried on by State and municipal boards of health.....

Dairy manufacturing: Advice and assistance to creamery and cheese-factory operators and patrons for the purpose of introducing better methods and securing a uniformly good product.....

Total.....

*ANIMAL HUSBANDRY INVESTIGATIONS.*

Total expenditures as above..... \$220,775.80  
Outstanding liabilities, Aug. 31 (estimated) 2,372.92  
Unexpended balance (estimated) 4,431.28

Total allotment.....

Distributed among the several subactivities as follows:

*Administration.*

Administration: General direction of the work in the Animal Husbandry Division, such office expenses as are not chargeable to specific projects coming under this head.....

*Animal genetics.*

Genetic research: Investigations of the effects of animal inbreeding from a scientific standpoint; interpretation of these results with regard to advantages and disadvantages in practical breeding, with suggestions as to the mode of procedure to secure the former without suffering from the latter; study of the mode of inheritance of special traits; and, in general, investigations of the factors which determine the course of the life histories of animals.....

\$3,500.00

5,542.44

19,403.56

2,847.60

2,081.55

296,410.36

227,580.00

17,477.19

7,647.38

*Animal-husbandry experiment farm.*

Animal husbandry experiment farm: Maintenance of a farm at Beltsville, Md., for the purpose of affording the bureau proper facilities for conducting investigations in the feeding and breeding of farm animals, including poultry.....

\$20,020.35

*Beef-cattle investigations.*

Supervision: General direction of the work in beef-cattle investigations, correspondence, and maintenance of record files pertaining to same.....

3,860.31

Beef production: Study the cost of maintaining breeding herds and the cost of producing beef animals to various ages; study of methods of fattening cattle and of the relative importance of various feedstuffs for such purposes, including work with calves, baby-beefes, and steers; investigation of methods of wintering stocker and feeder cattle; and determination of the effect of beef-cattle raising on soil fertility.....

9,463.71

Breeding Shorthorn cattle: Experimental study with a breeding herd of Shorthorn cattle to determine (a) whether the milking tendency in beef cattle is transmitted mainly by the dams through the male line of descent; (b) to what extent the milk-giving function of the dam influences the beef character of the progeny; (c) whether it is possible, by mating thickly fleshed beef bulls whose dams were heavy milkers and beef cows which transmit beef character to their progeny, to establish a heavy milking strain of beef cattle within a breed the female progeny of which will be double-purpose beef and milk animals and the males strictly of the beef type; and (d) whether the present standard of selecting beef cows is conducive to the production of the best beef type in the breed.....

4,600.00

Shrinkage in live stock during transportation: Study of the loss in weight of live stock in transit and methods of improving conditions surrounding live-stock shipments.....

1,937.86

Beef-cattle extension work: Organization of associations to improve beef cattle and encourage the cooperative purchase and sale of breeding animals; organization of baby-beef clubs and bull clubs; and instructions and assistance to farmers and live-stock men, by lectures, personal visits, correspondence, and otherwise, in all matters pertaining to beef-cattle work.....

2,078.75

*Certification of pedigrees.*

Certification of animals imported for breeding purposes: Determination of the purity of breeds and the identity of horses, dogs, and cats imported for breeding purposes under the provisions of paragraph 397 of the tariff act of Oct. 3, 1913.....

2,297.76

*Sheep and goat investigations.*

Supervision: General direction of the work in sheep and goat investigations, correspondence, and maintenance of record files pertaining to same.....

4,724.60

Range-sheep investigations: Investigations of the production of a range type of sheep from stock of Rambouillet blood; the adaptability of Corriedale sheep to western range conditions; study of flock management; and problems in range-sheep breeding.....

Farm-sheep investigations: Study of the factors controlling yields of lambs and the rate of their growth; determination for the main types of agricultural conditions in the farm States and for irrigated and dry-land farming areas of the lines upon which sheep raising can be made most profitable; and dissemination of data as to the profits from the practical management of farm flocks in New England.....

Milch-goat investigations: Determination of the most economical methods of breeding, feeding, and management of milking goats for infants' and invalids' use and in commercial cheese making.....

Studies of wool and other animal fibers: Determination for the various grades of wool the lowest shrinkage due to natural oil that is consistent with the maximum quantity and quality of wool; study of the relation of skin folds and other body characters to density of fleece and fineness of fiber; investigation of the effect of climate, soil, and feed, and also age and heredity, on the growth and quality of wool and other animal fibers used in commerce; and dissemination of information to wool growers concerning trade requirements and the various grades of wool and regarding the best methods of preparing their clips for market.....

*Swine investigations.*

Supervision: General direction of the work in swine investigations, correspondence, and maintenance of record files pertaining to same, including the organization of pig clubs.....

Production of pork: Studies of the effect of feed on the growth and quality of hogs and the keeping quality of pork, the effect of feed on the physiological condition of hogs, the toxic effect of cottonseed meal feeding, and the methods of farm curing of pork.....

Organization of pig clubs: The object of this work is to stimulate an interest in swine production; to teach farm children improved methods of raising, fattening, and marketing hogs; to instill in them, while young, a love of animals which will result in their taking more interest in life upon the farm; and to furnish them at the same time with some work which will, in a practical way, give an insight into the business side of farm life.....

*Horse and mule investigations.*

Supervision: General direction of the work in horse and mule investigations, correspondence, and maintenance of record files pertaining to these projects.....

Farm horse and mule investigations: Study of problems in feeding, breeding, and management of horses and mules, with particular reference to their use as farm work animals.....

\$8,129.65

3,239.35

1,128.26

3,538.16

1,130.00

10,477.60

28,699.72

2,786.25

2,361.18

Breeding American carriage horses: Investigations in the production of a breed of horses from American material suitable for carriage and general purposes.....

Breeding Morgan horses: The object of this project is to breed horses under New England conditions, establishing a stud and using horses of Morgan descent as the foundation; and, incidentally, to preserve the Morgan type and blood lines.....

Breeding horses on Indian reservations: Improvement of the quality of horses bred on Indian reservations by proper selection and the use of pure-bred stallions.....

Breeding horses for military purposes: The breeding of horses suitable for military purposes in localities where such horses are the most profitable type for farm use, and the encouragement, in general, of better horse-breeding methods among farmers.....

\$6,755.72

15,538.79

1,080.33

26,461.92

*Poultry investigations.*

Supervision: General direction of the work in poultry investigations, correspondence, and maintenance of record files connected with these projects.....

Farm-poultry investigations: Study of the effect of rations, the inheritance of egg-production and other characteristics, the incubation of eggs, brooding, and the effect on health of fowls and on fertility of eggs of free range, small and large yards, and various styles of houses.....

Turkey and guinea investigations: Study of the effect of different rations on the health of breeding stock, egg production, rate of growth of young stock, and fattening for market; improvement of the quality of the different breeds; development and improvement of the meat qualities and meat-carrying capacity; study of methods of natural and artificial incubation and brooding; and investigation of the general management of turkeys and guineas, such as free range and confinement, various styles of housing and shelter, methods of killing and dressing on the farm, and methods for the control and prevention of mortality in turkeys.....

Pigeon and squab investigations: Study of methods of rearing, feeding, breeding, housing, killing, dressing, and managing pigeons; the cost of production of squabs, the feeding of pigeons, and the possible profits to be expected in this industry; tests of different breeds of pigeons and the crosses of these breeds to determine their suitability and value for the production of squabs; and study of the possible improvement in prolificacy of squab breeders in breeding, selection, and feeding.....

Ostrich investigations: Investigation of the problems underlying the breeding, incubation, and feeding of ostriches in the United States; cooperation with the pathological division of the bureau in studying the diseases and climatic conditions affecting them; study of the marketing of feathers; and assistance to ostrich breeders in the preparation of their product for market.....

5,238.74

14,188.24

1,632.44

646.66

2,759.16

Organization of boys' and girls' poultry clubs: The object of this work is to stimulate an interest in poultry among farm boys and girls; to give a better knowledge of the value and importance of the poultry industry; to encourage better poultry management and the breeding of standard-bred poultry; to standardize poultry and poultry products; and to show how increased revenue may be obtained by marketing a first-class uniform product.....	\$13,278.64	Miscellaneous biological experiments and investigations: Development of methods for the control of hemorrhagic septicemia; determination of the specific nature of diseases affecting animals at the National Zoological Park for the purpose of controlling these diseases; investigations of market milk as it reaches the city after shipment from dairies in the country, for detection of pathological conditions; and miscellaneous investigations of animal diseases as required from time to time.....	\$12,740.69
Total.....	223,148.72	Index catalogue and collection of parasites: Maintenance of a comprehensive card index to the literature of animal parasites and a collection of specimens of parasites for study and reference.....	140.60
INVESTIGATIONS OF ANIMAL DISEASES.		Investigation of roundworms of sheep: Development of methods for the control and eradication of these parasites.....	
Total expenditures as above.....	\$155,771.99	Investigations of anthelmintics and the treatment of live stock for internal parasites: Determination of the relative values of remedies used against internal parasites and development of methods for the practical treatment of live stock to destroy or remove these organisms.....	11,515.48
Outstanding liabilities, Aug. 31 (estimated). .	3,644.97	Investigation of parasitic protozoa, with particular reference to blackhead in turkeys: Studies of the character and life history of these parasites, with a view to their eradication and control.....	2,557.67
Unexpended balance (estimated).....	17,743.04	Investigation of cattle ticks, mange mites, and other external parasites: Studies having in view the development of the most effective methods for the eradication and control of external parasites of animals.....	1,998.24
Total allotment.....	177,160.00	Miscellaneous investigations of animal parasites, their control and eradication: Investigations of methods for the control and eradication of miscellaneous animal parasites.....	8,654.73
Distributed among the several subactivities as follows:		Investigation of animal tuberculosis: Investigations in the control and eradication of tuberculosis among cattle, hogs, and other domestic animals, including studies of the mode of infection with tubercle bacilli, the manner in which the disease is disseminated, methods of treatment, and measures necessary to prevent its transmission.....	2,910.23
Supervision: General direction of all the investigations of animal diseases and the performance of duties common to this work.....	23,297.25	General maintenance of Bethesda experiment station: This represents overhead charges incidental to the maintenance and upkeep of the buildings, fences, and equipment of the bureau experiment station at Bethesda, Md., together with the cost of planting and harvesting crops and other operations in connection with running the farm, which items can not be segregated and charged against specific investigational projects.....	20,466.34
Rabies investigations: The diagnosis of rabies in animals; study of the disease to find the causative agent and to be able to grow this agent by laboratory methods; determination of the significance of Negri bodies in relation to the causation of rabies.....	1,853.12	Breeding and feeding small experiment animals for disease research: The object of this work is to breed and have available an abundant supply of small experiment animals of definite known history for the various investigations conducted by the several laboratories of the Bureau of Animal Industry.....	8,247.85
Forage poisoning or cerebrospinal meningitis of horses: Studies having in view the determination of the causative agent of this disease and the devising of measures for its prevention; also detection and study of the lesions of this disease.....	1,315.22	Investigations of stock poisoning by plants: Investigation of the losses of stock from poisonous plants and development of methods of avoiding such losses.....	12,293.97
Investigation of animal tuberculosis: Investigations in the control and eradication of tuberculosis among cattle, hogs, and other domestic animals, including studies of the mode of infection with tubercle bacilli, the manner in which the disease is disseminated, methods of treatment, and measures necessary to prevent its transmission.....	6,882.49	Total.....	159,416.96
Investigation of animal abortion: Study of the etiology, mode of transmission, and practicable means of eradicating the disease; devising the most satisfactory method of disinfecting contaminated premises; and determination of the presence of the bacillus in suspected samples of market milk, as well as in hairless pigs and in goats and calves affected with goiter.....	40,880.18	CONSTRUCTION OF BUILDINGS AT BETHESDA AND BELTSVILLE.	
Investigation of swamp fever: Determination of the nature, cause, and prevention of the so-called swamp fever of horses, and development of an accurate method of laboratory and clinical diagnosis; involves a general study of the so-called filterable or ultravirulent viruses and new methods of procedure in diagnostic technique.....	842.62	Total expenditures as above.....	\$22,566.27
Diagnosis of and immunization against anthrax: Experiments having in view the differentiation between anthrax and other diseases which bear resemblance to it and the perfecting of means of immunization against the disease by vaccination.....	1,163.72	Outstanding liabilities, Aug. 31 (estimated) .	2,077.06
Investigations of diseases of fowls: Study of the causes and methods of control of diseases of fowls.....	1,656.56	Unexpended balance (estimated).....	1,126.67
		Total allotment.....	25,770.00

The construction of barns, sheds, and other buildings required for the proper conduct of the animal-disease, animal-husbandry, and dairy-research work.....	\$24,643.33	governing the preparations, sale, barter, exchange, shipment, and importation of viruses, serums, toxins, and analogous products intended for use in the treatment of domestic animals are properly observed.....	\$1,611.17																																																																												
<b>INVESTIGATION, TREATMENT, AND ERADICATION OF HOG CHOLERA.</b>																																																																															
Total expenditures as above.....	\$214,349.62	Inspection of establishments: Inspection and supervision of the operations of establishments engaged in the preparation and disposal of serums, viruses, vaccines, toxins, etc., to determine whether or not licenses should be issued; also to determine whether the products of licensed establishments are pure and potent.....																																																																													
Outstanding liabilities, Aug. 31 (estimated)	1,453.67		\$140,993.89																																																																												
Unexpended balance (estimated).....	4,820.88																																																																														
Total allotment.....	<u>220,624.17</u>		<u>153,209.03</u>																																																																												
Distributed among the several subactivities as follows:																																																																															
Supervision: Direction and coordination of all research, extension, and control work relating to the cause and prevention of hog cholera.....	17,037.31	ERADICATION OF DOURINE.																																																																													
Hog-cholera eradication: Detail of veterinary inspectors to work in cooperation with State authorities, with a view to the control and eradication of hog cholera; production of serum used in the organization of the work.....	136,314.78	Total expenditures as above.....	\$95,855.97	Educational and demonstrational hog-cholera work: Instructions to farmers, through county agricultural agents and others, in methods of controlling hog cholera by the application of the preventive serum treatment and proper quarantine and sanitary measures.....	39,688.96	Outstanding liabilities, Aug. 31 (estimated)	128.95	Investigation of methods of producing immunity against hog cholera: Investigations to improve and cheapen present methods of immunizing hogs against hog cholera.....	4,806.42	Total allotment.....	<u>95,984.92</u>	Investigation of the cause of hog cholera: Studies having for their object the determination of the specific microorganism of hog cholera and, if possible, its artificial cultivation.....	3,717.91	Inspection of all horses in areas where dourine is known to exist and removal of stallions in such areas from the open range; the securing of blood serum from each animal and its subsequent examination in the bureau laboratory at Washington; slaughter of all mares reacting to the test and slaughter or castration of all reacting stallions.....		Investigation of the mode of dissemination of hog cholera: Investigation of the life of hog-cholera virus on infected premises and of ways in which virus is carried from farm to farm, as well as from animal to animal.....	14,237.91		95,984.92	Total.....	<u>215,803.29</u>	CONTROL OF MEAT AND MEAT FOOD PRODUCTS.		<b>CONTROL OF THE MANUFACTURE, IMPORTATION, AND SHIPMENT OF VIRUSES, SERUMS, ETC.</b>				Total expenditures as above.....	\$152,495.54	Total expenditures as above.....	\$3,444,346.11	Outstanding liabilities, Aug. 31 (estimated)	713.49	Outstanding liabilities, Aug. 31 (estimated)	3,163.57	Unexpended balance (estimated).....	32,990.97	Unexpended balance (estimated).....	34,833.45	Total allotment.....	<u>186,200.00</u>	Total allotment.....	<u>3,482,343.13</u>	Distributed among the several subactivities as follows:				Supervision: General direction of the work of enforcing the law governing the interstate shipment and the importation of viruses, serums, toxins, and analogous products intended for use in the treatment of domestic animals, including the supervision of the work of 85 employees at the various localities in the United States where such products are prepared, and the performance of duties common to the whole work.....	10,603.97	Distributed among the several subactivities as follows:		Special supervisory inspection: Personal investigations of licensed establishments and of the conduct and inspection of operations at licensed establishments to see that the law, regulations, and instructions governing meat inspection are properly observed.....		Supervision: General direction of the work of meat inspection, including the supervision of some 2,600 employees at all the slaughtering centers of the United States, and the performance of duties common to the whole work.....		Laboratory inspection: Chemical and bacteriological examinations to ascertain whether meat and meat food products prepared in official establishments or under exemption or those shipped interstate by farmers, as well as imported meats and meat food products, are properly labeled, sound, healthful, wholesome, and otherwise fit for human food, and to determine whether any prohibited substance has been used in their preparation or in and about the establishment; also examinations to determine whether the water and ice used in the preparation of meat and meat food products are potable.....		Purchase, preparation, and distribution of brands and branding ink: Provision for suitable fluid and branding appliances for marking carcasses, parts of carcasses, and meat and meat food products inspected under the meat-inspection act....		H. Doc. 486, 65-2—2		Special supervisory inspection: Personal investigations of official establishments and of the conduct and inspection of operations to see that the law, regulations, and instructions governing meat inspection are properly observed.....				Laboratory inspection: Chemical and bacteriological examinations to ascertain whether meat and meat food products prepared in official establishments or under exemption or those shipped interstate by farmers, as well as imported meats and meat food products, are properly labeled, sound, healthful, wholesome, and otherwise fit for human food, and to determine whether any prohibited substance has been used in their preparation or in and about the establishment; also examinations to determine whether the water and ice used in the preparation of meat and meat food products are potable.....					64,726.75				22,653.22				3,760.37
Total expenditures as above.....	\$95,855.97																																																																														
Educational and demonstrational hog-cholera work: Instructions to farmers, through county agricultural agents and others, in methods of controlling hog cholera by the application of the preventive serum treatment and proper quarantine and sanitary measures.....	39,688.96	Outstanding liabilities, Aug. 31 (estimated)	128.95																																																																												
Investigation of methods of producing immunity against hog cholera: Investigations to improve and cheapen present methods of immunizing hogs against hog cholera.....	4,806.42	Total allotment.....	<u>95,984.92</u>																																																																												
Investigation of the cause of hog cholera: Studies having for their object the determination of the specific microorganism of hog cholera and, if possible, its artificial cultivation.....	3,717.91	Inspection of all horses in areas where dourine is known to exist and removal of stallions in such areas from the open range; the securing of blood serum from each animal and its subsequent examination in the bureau laboratory at Washington; slaughter of all mares reacting to the test and slaughter or castration of all reacting stallions.....																																																																													
Investigation of the mode of dissemination of hog cholera: Investigation of the life of hog-cholera virus on infected premises and of ways in which virus is carried from farm to farm, as well as from animal to animal.....	14,237.91		95,984.92																																																																												
Total.....	<u>215,803.29</u>	CONTROL OF MEAT AND MEAT FOOD PRODUCTS.																																																																													
<b>CONTROL OF THE MANUFACTURE, IMPORTATION, AND SHIPMENT OF VIRUSES, SERUMS, ETC.</b>																																																																															
Total expenditures as above.....	\$152,495.54	Total expenditures as above.....	\$3,444,346.11																																																																												
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Unexpended balance (estimated).....	32,990.97	Unexpended balance (estimated).....	34,833.45																																																																												
Total allotment.....	<u>186,200.00</u>	Total allotment.....	<u>3,482,343.13</u>																																																																												
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Supervision: General direction of the work of enforcing the law governing the interstate shipment and the importation of viruses, serums, toxins, and analogous products intended for use in the treatment of domestic animals, including the supervision of the work of 85 employees at the various localities in the United States where such products are prepared, and the performance of duties common to the whole work.....	10,603.97	Distributed among the several subactivities as follows:																																																																													
Special supervisory inspection: Personal investigations of licensed establishments and of the conduct and inspection of operations at licensed establishments to see that the law, regulations, and instructions governing meat inspection are properly observed.....		Supervision: General direction of the work of meat inspection, including the supervision of some 2,600 employees at all the slaughtering centers of the United States, and the performance of duties common to the whole work.....																																																																													
Laboratory inspection: Chemical and bacteriological examinations to ascertain whether meat and meat food products prepared in official establishments or under exemption or those shipped interstate by farmers, as well as imported meats and meat food products, are properly labeled, sound, healthful, wholesome, and otherwise fit for human food, and to determine whether any prohibited substance has been used in their preparation or in and about the establishment; also examinations to determine whether the water and ice used in the preparation of meat and meat food products are potable.....		Purchase, preparation, and distribution of brands and branding ink: Provision for suitable fluid and branding appliances for marking carcasses, parts of carcasses, and meat and meat food products inspected under the meat-inspection act....																																																																													
H. Doc. 486, 65-2—2		Special supervisory inspection: Personal investigations of official establishments and of the conduct and inspection of operations to see that the law, regulations, and instructions governing meat inspection are properly observed.....																																																																													
		Laboratory inspection: Chemical and bacteriological examinations to ascertain whether meat and meat food products prepared in official establishments or under exemption or those shipped interstate by farmers, as well as imported meats and meat food products, are properly labeled, sound, healthful, wholesome, and otherwise fit for human food, and to determine whether any prohibited substance has been used in their preparation or in and about the establishment; also examinations to determine whether the water and ice used in the preparation of meat and meat food products are potable.....																																																																													
			64,726.75																																																																												
			22,653.22																																																																												
			3,760.37																																																																												

Ante-mortem inspection of animals for slaughter: Examination of all cattle, sheep, swine, and goats to discover animals which show symptoms of or are suspected of being affected with any disease or condition which would probably cause their condemnation in whole or in part when slaughtered, such animals being held apart and slaughtered separately from other animals so as to insure careful post-mortem inspection as provided in the regulations governing Federal meat inspection.....	\$222,267.85	are sound, healthful, wholesome, and fit for human food.....	\$4,846.71
Post-mortem inspection of animals: Visual and digital examination and inspection of the carcasses and parts of all cattle, sheep, swine, and goats slaughtered at official establishments to determine the presence in any such carcasses or parts of any lesions of disease or other condition which might render the meat or any organ unfit for food purposes; and condemnation and destruction for food purposes of all carcasses or parts thereof of animals found on final inspection to be unsound, unhealthful, unwholesome, or otherwise unfit for human food.....	1,398,160.90	Field overhead and miscellaneous meat inspection: This includes the overhead charges, such as details of inspectors in charge, supervisors, clerks, etc., at the meat-inspection stations throughout the United States; also minor activities not included under other projects of this group.....	13,496.13
Supervision of the preparation and distribution of meats: Inspection of meat and meat food products prepared within and brought into official establishments and departments thereof to see that no unfit meat or product is used in the various processes of preparation, packing, salting, smoking, canning, etc., to insure proper labeling, and to see that establishments are maintained in a sanitary condition, that the workers are clean as to person and raiment, and that deleterious preservatives or ingredients are not used.....	1,524,514.37	Bacteriological investigations of meat and meat food products: The object of these investigations is to aid inspectors to determine the proper disposition of questionable meat and to enable packers, by the use of proper methods, to prevent spoilage.....	421.67
Inspection of meats for the United States Army and Navy: Supervision of the preparation of meat and meat food products for the Army and Navy to insure their soundness and fitness for food purposes at the time of delivery and that such articles conform to the specifications of the Army and Navy. (This expenditure, \$34,586.67, is reimbursable.)	10,251.76	Investigation of changes in meats during preservation: Study of the changes which take place in meats during preservation by various methods, with particular reference to the cause of such changes and their effect upon the wholesomeness and nutritive value of the product.....	4,687.33
Inspection of public markets: Examinations at public markets of portions of inspected and passed meats and products thereof which, when cut or otherwise removed from a marked carcass, part, or container, do not show the inspection legend.....		Investigation of canned meats: The object of this project is to develop, through chemical and bacteriological studies, information concerning the effect which prolonged storage has upon canned meats.	3.25
Supervision of operations conducted under certificates of exemption: Under this project premises are examined to ascertain whether the shippers are retail butchers, retail dealers, or farmers, and hence entitled to operate under certificates of exemption, as provided under the meat-inspection law; also to see that the premises in which animals are slaughtered or where meat and meat products are prepared by or for persons who make interstate shipments under exemption from inspection are maintained in a sanitary condition and that the articles so shipped		Investigation of pathological conditions noted during meat inspection: Investigation of any abnormal, unusual, or hitherto unnoted condition of interest, directly or indirectly, from the meat-inspection viewpoint, which may be encountered during routine Federal meat inspection, special emphasis being laid upon infectious conditions and those characterized by malignancy.....	7,821.18
		Zoological investigations relating to meat inspection: Investigation of trichinosis and measles, and other zoological studies relating to meat inspection, with a view to improve methods of meat inspection in so far as parasitic diseases of food animals are concerned.....	1,815.65
		Investigations upon the control of the house fly and other insects in establishments operating under Federal meat inspection.....	232.19
		Total.....	3,447,509.68

The meat-inspection work described in the preceding paragraphs was conducted at Washington, D. C., and 253 stations and substations in the field. The approximate cost and the character of the work conducted at each of the 147 principal stations are given below, substations being included with main stations.

## Distribution of meat-inspection work and expenditures by stations.

Station.	Nature of work. <sup>1</sup>	Amount.	Station.	Nature of work. <sup>1</sup>	Amount.
Albany, N. Y.	a, b, c, d.	\$8,798.18	Marysville, Kans.	c.	\$143.33
Albert Lea, Minn.	a, b, c, d.	7,059.13	Mason City, Iowa.	a, b, c, d.	11,643.72
Allentown, Pa.	a, b, c, d.	8,021.59	Memphis, Tenn.	c, d.	5,925.34
Alton, Ill.	a, b, c, d.	3,868.87	Menominee, Mich.	a, b, c, d.	2,115.00
Andalusia, Ala.	a, b, c, d.	2,501.81	Milwaukee, Wis.	a, b, c, d., o	67,231.25
Arkansas City, Kans.	a, b, c, d, i.	3,145.59	Morrison, Tenn.	a, b, c, d.	3,041.28
Auburn, Me.	a, b, c, d, i.	2,843.13	Moscow, Idaho.	a, b, c, d, i.	1,545.29
Augusta, Ga.	a, b, c, d, e, f, j.	11,473.08	Moultrie, Ga.	a, b, c, d.	2,836.62
Austin, Minn.	a, b, c, d.	17,717.43	Nashville, Tenn.	a, b, c, d, o.	5,972.63
Baltimore, Md.	a, b, c, d, f, i, j.	49,382.56	Natchez, Miss.	a, b, c, d, e.	6,969.11
Bellows Falls, Vt.	a, b, c, d, i.	3,130.21	National Stock Yards, Ill.	a, b, c, d, i.	118,698.13
Bethesda, Md.	p.	40.00	Nebraska City, Nebr.	a, b, c, d.	6,616.30
Birmingham, Ala.	a, b, c, d.	3,280.33	Newark, N. J.	a, b, c, d, g, i, j.	35,347.37
Bisbee, Ariz.	a, b, c, d.	1,704.05	New Haven, Conn.	a, b, c, d.	7,505.62
Boise, Idaho.	a, b, c, d, i.	3,145.38	New Orleans, La.	a, b, c, d, i.	17,312.58
Boston, Mass.	a, b, c, d, e, f, g, i, j, o.	93,794.38	New Richmond, Wis.	a, b, c, d.	875.66
Bridgeport, Conn.	c.	1,349.01	New York, N. Y.	a, b, c, d, e, g, i, j.	179,822.36
Brooklyn, N. Y.	a, b, c, d, f, i, l.	41,820.98	Norfolk, Va.	c, d.	3,378.64
Bristol, Va.	a, b, c, d.	841.57	North Tazewell, Va.	a, b, c, d.	3,361.04
Buffalo, N. Y.	a, b, c, d, f, j.	74,454.72	Ogden, Utah.	a, b, c, d, i.	6,098.06
Burlington, Vt.	a, b, c, d, i.	1,997.15	Oklahoma, Okla.	a, b, c, d.	46,453.54
Calais, Me.	a, b, c.	1,336.25	Ottumwa, Iowa.	a, b, c, d.	24,587.27
Cedar Rapids, Iowa.	a, b, c, d.	23,750.73	Paterson, N. J.	a, b, c, d.	16,595.48
Chattanooga, Tenn.	a, b, c, d.	2,121.82	Peoria, Ill.	a, b, c, d.	11,257.45
Cheyenne, Wyo.	a, b, c, d.	3,171.79	Philadelphia, Pa.	a, b, c, d, e, g, i, j.	84,948.20
Chicago, Ill.	a, b, c, d, e, f, h, i, j, o, p.	533,830.54	Pittsburg, Kans.	a, b, c.	2,000.00
Cincinnati, Ohio.	a, b, c, d, i, o.	83,111.59	Pittsburgh, Pa.	a, b, c, d, h, j.	30,103.35
Cleveland, Ohio.	a, b, c, d.	69,539.39	Port Huron, Mich.	i.	15.00
Columbus, Ohio.	a, b, c, d.	5,970.32	Portland, Me.	a, b, c, d, g, i, j.	7,343.04
Cortland, N. Y.	d.	4.34	Portland, Oreg.	a, b, c, d, i, j, o.	21,267.83
Cumberland, Md.	c.	1,320.00	Pottsville, Pa.	a, b, c, d.	6,039.76
Davenport, Iowa.	a, b, c, d, e, l.	4,258.31	Providence, R. I.	a, b, c, d.	24,191.21
Dayton, Ohio.	a, b, c, d, e, i.	12,758.27	Pueblo, Colo.	a, b, c, d.	4,187.25
Denver, Colo.	a, b, c, d, i.	36,278.53	Quincy, Ill.	c, g.	1,320.00
Des Moines, Iowa.	c.	181.61	Reno, Nev.	a, b, c, d.	4,292.40
Detroit, Mich.	a, b, c, d, i, j.	42,350.65	Richland Center, Wis.	b, c, d.	1,057.05
Dubuque, Iowa.	a, b, c, d, e, l.	3,061.22	Richmond, Ind.	a, b, c, d.	2,638.99
Duluth, Minn.	a, b, c, d, i, j.	4,093.60	Richmond, Va.	a, b, c, d, j.	13,220.07
Eau Claire, Wis.	a, b, c, d.	4,205.11	Rochester, N. Y.	g.	1,313.64
El Paso, Tex.	c.	3,280.00	Sacramento, Cal.	b.	10.00
Erie, Pa.	d.	37.75	St. Louis, Mo.	a, b, c, d, g.	67,759.34
Evansville, Ind.	a, b, c, d.	5,120.96	Salt Lake City, Utah.	b, c, d.	2,312.92
Fargo, N. Dak.	c.	13.20	San Diego, Cal.	a, b, c, d, j.	5,286.44
Faribault, Minn.	a, b, c, d.	1,803.43	San Francisco, Cal.	a, b, c, d, g, i, j.	28,237.12
Fergus Falls, Minn.	a, b, c, d, e.	1,920.00	Sault Ste. Marie, Mich.	j.	5.00
Fort Smith, Ark.	c, d, i.	1,323.50	Seattle, Wash.	a, b, c, d, e, i, j.	29,590.42
Fort Wayne, Ind.	a, b, c, d.	5,001.60	Shreveport, La.	c.	2,130.67
Fort Worth, Tex.	a, b, c, d, i, q.	69,934.58	Sioux City, Iowa.	a, b, c, d.	76,624.61
Postoria, Ohio.	a, b, c, d.	1,146.21	Sioux Falls, S Dak.	a, b, c, d, e.	28,063.79
Frederick, Md.	a, b, c, d.	541.10	Smithfield, Va.	c, d.	500.50
Grand Rapids, Mich.	a, b, c, d.	2,563.33	South Omaha, Nebr.	a, b, c, d, h, i.	171,665.73
Green Bay, Wis.	c, d.	172.54	South St. Joseph, Mo.	a, b, c, d.	109,892.88
Hallstead, Pa.	a, b, c.	1,981.40	South St. Paul, Minn.	a, b, c, d, e, l.	47,864.29
Harrisburg, Pa.	a, b, c, d.	7,352.77	Spokane, Wash.	a, b, c, d, e, l.	17,920.36
Hartford, Conn.	c.	1,332.19	Springfield, Mass.	a, b, c, d.	14,941.19
Haverhill, Mass.	a, b, c, d.	6,854.62	Stamford, Conn.	c, e, d, g, i.	1,305.60
Houston, Tex.	a, b, c, d, i.	12,214.17	Tacoma, Wash.	a, b, c, d, i, j.	10,008.72
Huntington, W. Va.	a, b, c.	2,391.82	Terra Haute, Ind.	a, b, c, d.	5,411.92
Indianapolis, Ind.	a, b, c, d, i.	74,531.07	Texarkana, Tex.	c.	1,322.00
Jacksonville, Fla.	a, b, c, d, j.	5,546.55	Toledo, Ohio.	a, b, c, d.	8,800.58
Jacksonville, Ill.	a, b, c.	3,200.00	Topeka, Kans.	a, b, c, d.	7,650.87
Jefferson, Wis.	a, b, c.	2,001.21	Walla Walla, Wash.	a, b, c, d.	4,064.58
Jersey City, N. J.	a, b, c, d.	45,280.26	Washington, D. C.	a, b, c, d, e, g, h, i, j, k, l, m, n, p.	149,217.50
Kansas City, Kans.	a, b, c, d, e, i, j, o.	274,257.83	Waterloo, Iowa.	a, b, c, d.	10,427.11
La Crosse, Wis.	a, b, c, d, e.	746.08	Wausau, Wis.	a, b, c, d.	2,676.29
La Fayette, Ind.	a, b, c.	4,400.00	Waycross, Ga.	a, b, c, d, i.	1,740.79
Lewiston, Idaho.	a, b, c, d, i.	4,351.00	Wheeling, W. Va.	a, b, c, d, g.	16,085.98
Logansport, Ind.	a, b, c, d.	4,674.52	Wichita, Kans.	a, b, c, d, f.	37,547.89
London, England.	o.	3,500.00	Wilkes-Barre, Pa.	c, d.	506.16
Los Angeles, Cal.	a, b, c, d, g, i, j.	35,116.29	Wilmington, Del.	a, b, c, d.	5,896.01
Louisville, Ky.	a, b, c, d.	18,634.43	Wilmington, N. C.	c.	703.03
Madison, Ind.	a, b, c, d.	1,785.20	Winona, Minn.	a, b, c, d.	4,852.14
Manchester, N. H.	c, g.	1,500.37	Worcester, Mass.	a, b, c, d.	9,852.44
Marshalltown, Iowa	a, b, c, d.	1,139.75			

<sup>1</sup> The letters in this column have the following meaning: a, ante-mortem inspection of animals for slaughter; b, post-mortem inspection of animals; c, supervision of the preparation and distribution of meats; d, miscellaneous meat inspection; e, supervision of operations conducted under certificates of exemption; f, inspection of meats for the Army and Navy (reimbursable, amount not included); g, inspection at public markets; h, investigations of pathological conditions noted during meat inspection; i, laboratory inspection of samples of meat and meat food products; j, examination of imported meat and meat food products; k, purchase of meat-inspection brands; l, preparation and distribution of branding ink; m, bacteriological investigations of meat and meat food products; n, investigations of changes in meats in cold storage; o, special supervisory inspection; p, investigations of trichinosis and measles; q, investigations upon the control of the house fly.

## ERADICATION OF FOOT-AND-MOUTH DISEASE.

Total expenditures as above..... \$47,583.15  
Unexpended balance (estimated)..... 598,649.52

Total allotment..... 646,232.67

Investigations of suspected outbreaks of foot-and-mouth disease reported from various parts of the country, and maintenance of a careful inspection of all receipts of cattle,

sheep, and swine for symptoms of this disease

at the large markets located in areas in which the disease existed during the late outbreak. \$47,583.15

## LIVE-STOCK PRODUCTION IN CANE-SUGAR AND COTTON DISTRICTS.

Total expenditures as above..... \$57,327.15  
Outstanding liabilities, Aug. 31 (estimated)..... 2,594.82  
Unexpended balance (estimated)..... 78.03

Total allotment..... 60,000.00

Distributed among the several subactivities as follows:

Experimental work: The object of this work is to determine the commercial possibilities of producing live stock in the cane-sugar and cotton districts of the South, and includes studies of the best and most economical methods of crop production and of feeding and handling live stock under the conditions obtaining in this region. .... \$39,771.15

Extension work: Dissemination of information relative to the best methods to be used in producing live stock in the cane-sugar and cotton districts of the South; the work being at present confined principally to the State of Louisiana and including demonstrations in the production of beef cattle, hogs, horses, mules, and poultry, in diarying, and in forage-crop production. .... \$20,150.82

Total. .... 59,921.97

### BUREAU OF PLANT INDUSTRY.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.			Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.			Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.					
1 Administration.....	\$75,678.62	\$18,126.07	\$66.67	\$93,871.36	\$456.40	\$318.76	\$1,219.07	
2 Laboratory of plant pathology.....	8,002.00	25,852.01	2,132.98	35,986.99	3,015.36	580.69	514.88	
3 Fruit-disease investigations.....	4,530.45	44,429.12	798.22	49,757.79	6,042.01	1,287.51	97.85	
4 Citrus-canker investigation and eradication.....	1,345.82	441,182.21	442,528.03	111,826.05	.....	199.36	1,350.55	
5 Investigations in forest pathology.....	4,666.65	25,355.33	53,536.28	83,558.26	25,496.59	1,125.22	427.82	
6 Cotton, truck, and forage-crop disease investigations.....	10,064.17	28,158.04	14,742.62	52,964.83	8,295.39	1,140.11	213.41	
7 Crop physiology and breeding investigations.....	9,725.17	15,157.83	14,535.08	39,418.08	4,662.98	491.35	98.04	
8 Soil-bacteriology and plant-nutrition investigations.....	6,731.22	26,983.75	1,902.00	35,616.97	1,342.08	1,559.66	132.12	
9 Soil-fertility investigations.....	1,910.00	27,682.91	113.25	29,706.16	1,671.85	970.07	292.17	
10 Crop-acclimatization investigations.....	3,775.34	20,001.00	11,246.40	35,022.74	7,696.66	77.35	68.80	
11 Drug-plant, poisonous-plant, physiological, and fermentation investigations.....	9,146.84	32,885.42	6,544.17	48,576.43	4,295.56	1,453.97	193.04	
12 Agricultural technology and fiber-plant investigations.....	7,908.55	17,388.19	1,604.08	26,900.82	3,114.55	775.63	7.05	
13 Grain standardization.....	9,972.68	33,317.56	26,038.44	60,328.68	6,738.67	768.78	3,613.07	
14 Biophysical investigations.....	5,511.67	14,540.33	5,699.71	23,751.71	2,280.94	566.75	43.67	
15 Seed-testing laboratories.....	8,389.01	18,845.43	5,712.35	32,946.79	1,478.50	495.95	196.55	
16 Cereal investigations.....	20,984.70	64,888.05	51,245.85	137,118.60	26,097.47	815.45	266.40	
17 Tobacco investigations.....	3,908.33	5,512.17	16,540.02	23,960.52	2,345.07	153.75	11.15	
18 Paper-plant investigations.....	2,770.00	5,070.00	106.00	7,946.00	1,559.70	30.79	.....	
19 Alkali and drought resistant plant investigations.....	2,435.50	12,492.67	3,426.74	18,354.91	3,935.65	63.25	49.75	
20 Sugar-plant investigations.....	1,200.00	12,371.79	17,165.92	30,737.71	11,096.08	646.70	301.45	
21 Investigations in economic and systematic botany.....	10,117.23	15,668.05	.....	23,785.28	1,453.59	2,167.72	269.10	
22 Dry-land agriculture investigations.....	7,075.83	15,230.84	87,182.76	109,489.43	11,201.93	518.14	1,247.21	
23 Western irrigation agriculture investigations.....	9,163.37	6,140.85	42,117.08	57,421.30	4,084.58	205.65	864.03	
24 Pomological investigations.....	21,572.45	49,493.95	11,481.98	82,548.38	21,970.30	586.86	544.44	
25 Horticultural investigations.....	12,908.98	24,946.63	6,396.89	44,252.50	6,920.04	138.48	560.63	
26 Arlington farm.....	16,650.15	4,868.52	.....	21,518.67	.....	.....	2,310.23	
27 Experimental gardens and grounds.....	43,120.34	2,451.17	.....	45,571.51	.....	.....	17.10	
28 Foreign seed and plant introduction.....	34,910.26	26,989.17	24,194.61	86,094.04	6,899.21	.....	301.09	
29 Forage-crop investigations.....	9,175.89	32,949.98	22,240.86	64,366.73	10,829.54	.....	639.77	
30 Seed distribution.....	34,994.36	20,761.52	2,680.32	58,436.20	2,065.99	.....	2,130.88	
31 Demonstrations on reclamation projects.....	450.00	4,630.01	21,044.54	26,124.55	8,459.27	67.64	336.79	
Total.....	397,449.76	654,534.18	891,678.03	1,943,661.97	307,332.01	17,006.23	12,838.96	
							80,196.38	

### PROJECT STATEMENTS.

#### ADMINISTRATION.

Total expenditures as above..... \$102,449.80  
Outstanding liabilities, Aug. 31 (estimated)..... 1,093.81  
Unexpended balance (estimated)..... 355.01

Total allotment..... 103,898.62

This project covers the administration of the business affairs of the bureau and general direction of all its investigational activities, and includes the offices of chief and associate chief of bureau, the office of chief clerk, editorial office, office of records, library, central files section, and supply section.... 103,543.61

#### LABORATORY OF PLANT PATHOLOGY.

Total expenditures as above..... \$44,933.76  
Outstanding liabilities, Aug. 31 (estimated)..... 1,191.56  
Unexpended balance (estimated)..... 376.68

Total allotment..... 46,502.00

Distributed among the several subactivities as follows:

Central laboratory of plant pathology: Study and identification of fungi and bacteria parasitic on plants, with a view to the discovery of remedies and methods of preventing diseases caused by them. Dis-

## DAIRYING AND LIVE-STOCK PRODUCTION IN SEMIARID AND IRRIGATED DISTRICTS.

Total expenditures as above.....	\$32,494.43										
Outstanding liabilities, Aug. 31 (estimated).....	7,505.57										
Total allotment.....	40,000.00										\$40,000.00

Investigations of the problems encountered in establishing the industries of dairying and meat production in the semiarid and irrigated sections of the western United States, particularly with reference to the effective utilization of the forage and grain crops produced in those regions.....

## BUREAU OF PLANT INDUSTRY.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.		
\$2,443.42	\$123.00	\$363.14	\$5.88	\$116.90			\$413.03	\$484.92	\$102,449.80	1	
666.76	75.00	22.41	123.51				31.45	2,910.08	44,933.76	2	
845.51	892.25	114.76	308.63	60.06			31.83	1,768.84	62,604.43	3	
8,841.62	660.65	147.94	444.84				8.65	8,096.22	575,829.01	4	
968.32	325.50	427.66	397.54	38.20			49.48	598.27	116,121.40	5	
987.17	1,237.88	127.15	366.53	96.44			28.60	82.43	2,739.26	6	
1,254.88	367.00	226.93	396.65	241.28	\$165.05	381.93	479.49	2,928.01	53,759.07	7	
1,134.96	126.00	28.44	113.05	13.14			27.92	2,889.68	46,616.12	8	
671.11	12.03	116.50	166.10				32.61	1,364.19	35,475.96	9	
706.52	90.06	260.81						782.52	45,577.08	10	
1,115.11	275.00										
183.00	62.57	187.87	42.71	156.98			31.17	1,981.22	59,530.76	11	
422.37	20.25	45.85	106.24				60.98	300.43	32,254.26	12	
1,487.82	3,430.00	423.12	642.17	16.14			19.08	98.14	93,144.75	13	
362.23	710.00	68.29	684.95	183.56			24.87	1,560.62	35,652.33	14	
773.52		338.49	87.66					26.55	139.81	37,446.11	15
1,604.23	104.00	291.55	482.52	90.15	970.32		277.04	204.12	3,789.96	16	
435.52	140.00	11.28	65.97	16.90			12.50	3.83	1,256.87	17	
73.73		3.01	86.81					46.70	106.23	11,382.32	18
341.78		50.36	149.42					42.43	77.43	23,419.63	19
578.54	491.06	113.88	387.93				113.30	21.03	1,548.66	20	
507.02		25.33	12.49					37.59	584.35	31,284.59	21
1,266.79	447.72	475.22	1,147.13	616.64	1,809.71	1,599.26	16,016.33	4,886.22	156,015.08	22	
596.94		289.02	281.01	129.44	1,922.52		815.37	1,464.84	3,106.72	23	
1,092.86	173.33	503.33	412.03				27.12	1,342.27	6,218.78	24	
379.53	37.50	146.93	222.47	333.24			176.15	4,957.22	3,202.02	25	
293.72		112.02	9.69	1,246.31	1,266.70		1,781.65	167.85	1,378.28	26	
115.49		5.41	33.11	496.30			218.70	72.88	163.67	27	
1,838.43	145.12	546.75	1,166.77	313.67			935.04	1,048.14	4,912.63	28	
680.29	710.00	80.74	783.83	27.38				18.27	84.78	5,047.18	29
2,500.78	187.50	303.02	14,045.93	916.56	155.12			775.51	108.36	249,289.50	30
221.02		65.53	372.06					429.18	65.37	421.34	31
35,507.99	11,853.16	5,582.22	23,902.00	5,161.12	7,381.44			8,637.59	132,482.58	310,516.94	2,802,060.59

<sup>1</sup> Mechanics', engineers', and electricians' supplies, \$831.43; cleaning and toilet supplies, \$1,851.57; structures and parts and nonstructural improvements to land, \$29,799.58.

eased material is received from all parts of the United States and abroad for examination and advice given as to methods of treatment.....

Pathological collections: Maintenance of a herbarium of pathogenic specimens, also mycological and host indexes of new species and list of plants which they attack, and a mycological exchange with American and foreign scientists; and the identification of pathological material received by correspondence or otherwise.....

\$35,254.58

10,870.74

46,125.32

## FRUIT-DISEASE INVESTIGATIONS.

Total expenditures as above.....	\$62,604.43
Outstanding liabilities, Aug. 31 (estimated).....	4,222.86
Unexpended balance (estimated).....	1,318.16
Total allotment.....	68,145.45

Distributed among the several subactivities as follows:

Supervision: General direction of field experiments and demonstrations, preparation of publications, miscellaneous laboratory experiments, and clerical routine.....

8,187.31

Total.....

General orchard diseases: Laboratory studies and field tests and demonstrations to develop methods of eradication or control of pear blight, little peach, peach yellows, crown gall, apple canker and black heart, root rot, and other diseases of orchard fruits; and a special study of spraying materials and apparatus.....	\$12,769.94	Forest-tree diseases: Field and laboratory studies of the causes and progress of diseases affecting forest trees and shrubs, especially forest nursery stock, including the control of such diseases as interfere with the commercial production of forest-tree seedlings and with successful reforestation by planting.....	\$28,052.50
Grape and small-fruit diseases: Research work on diseases of the grape and cranberry and other small fruits, including a study of the life history of the anthracnoses and other fungi, the various pathological factors which produce diseases, and the most effective means of combating them.....	12,182.87	Imported and epidemic tree diseases: Study of the control of miscellaneous diseases, including white-pine blister rust, the chestnut bark disease, etc., and the dissemination of information, by demonstrations, publications, and correspondence, relative to the work.....	39,592.49
Citrus and subtropical fruit diseases: Investigations of fungous and other diseases of the orange, lemon, mango, pineapple, avocado, pomegranate, etc., including attention to the fungous decays of these fruits in storage, in transit, and on the market.....	12,555.00	White-pine blister rust: Special cooperative experiments and demonstrations for the control and eventual eradication of the disease.....	52,760.04
Orchard spraying experiments: Study of the effects of different spraying remedies, such as the russetting of apples by Bordeaux mixture, peach foliage injury by spraying with fungicides, etc.; and tests and demonstrations of spraying methods in various sections where, for any cause, failure has occurred.....	5,696.16	Total.....	144,154.41
Fruit rots and spots: Study of the causes and methods of prevention of these diseases while the fruit is in the orchard, in transit, in storage, or on the market.....	8,678.48	COTTON, TRUCK, AND FORAGE-CROP DISEASE INVESTIGATIONS.	
Physiological fruit diseases: Study of diseases resulting from bad soil, malnutrition, frost, and other environmental and physiological conditions.....	6,757.53	Total expenditures as above.....	\$70,039.54
Total.....	66,827.29	Outstanding liabilities, Aug. 31 (estimated). . . . .	3,465.65
<b>CITRUS-CANKER INVESTIGATION AND ERADICATION.</b>		Unexpended balance (estimated). . . . .	558.98
Total expenditures as above.....	\$575,829.01	Total allotment.....	<u>74,064.17</u>
Outstanding liabilities, Aug. 31 (estimated). . . . .	16,579.47	Distributed among the several subactivities as follows:	
Unexpended balance (estimated). . . . .	3,664.83	Supervision: General direction of field investigations, miscellaneous laboratory experiments, and clerical routine.....	14,401.07
Total allotment.....	<u>1 596,073.31</u>	Cotton diseases: General study of cotton diseases and their control, and the breeding of wilt-resistant varieties of cotton adapted to boll-weevil conditions in the eastern part of the cotton belt.....	7,085.00
Study of the cause, nature, means of communication, and methods of control of citrus canker; and the application of measures for its eradication and control, in cooperation with State authorities and growers.....	592,408.48	Truck-crop diseases: Investigations of the causes and control of miscellaneous diseases of truck crops and the breeding of disease-resistant varieties.....	50,153.72
<b>INVESTIGATIONS IN FOREST PATHOLOGY.</b>		Forage-crop diseases: Study of diseases of forage crops, especially alfalfa, clover, and cowpeas; development of control measures, and breeding of resistant varieties.....	1,865.40
Total expenditures as above.....	\$116,121.40	Total.....	<u>73,505.19</u>
Outstanding liabilities, Aug. 31 (estimated). . . . .	28,033.01	<b>CROP PHYSIOLOGY AND BREEDING INVESTIGATIONS.</b>	
Unexpended balance (estimated). . . . .	103,409.90	Total expenditures as above.....	\$53,759.07
Total allotment.....	<u>2 247,564.31</u>	Outstanding liabilities, Aug. 31 (estimated). . . . .	4,344.43
Distributed among the several subactivities as follows:		Unexpended balance (estimated). . . . .	1,161.67
Supervision: Planning and supervising field investigations, miscellaneous laboratory experiments in connection with the pathological studies, and general office details.	12,920.27	Total allotment.....	<u>59,265.17</u>
Diseases of shade and ornamental trees and shrubs: Experiments on the nature and control of these diseases, in cooperation with States, cities, societies, institutions, and private agencies.....	5,495.89	Distributed among the several subactivities as follows:	
Pathological problems in wood preservation: The devising of better methods of timber preservation by the study of all pathological and mycological aspects of the rotting and staining of structural timber.....	5,333.22	Supervision: General direction of field investigations, miscellaneous laboratory experiments, and clerical routine.....	5,493.50
<sup>1</sup> Includes a balance of \$163,393.15 of the \$300,000 provided in the urgent deficiency act approved Feb. 28, 1916, and a balance of \$1,865.82 from the appropriation of \$35,000 included in the urgent deficiency act approved Jan. 25, 1915.		Indian cooperation: Breeding and testing of crops which may be grown profitably by the Indians themselves or for which Indian labor may be utilized.....	11,630.00
<sup>2</sup> Includes an immediately available appropriation of \$150,000, carried in the agricultural act for the fiscal year 1918.		Date culture: Investigations of the life history and physiological requirements of the date palm in order to establish date culture on a commercial scale in the United States.....	14,650.00
		Fig culture: Development of economical and practical methods for the caprification of Smyrna figs in order to establish their culture on a commercial scale in this country; and breeding new varieties of figs and capri-figs adapted to American conditions.....	5,100.00

<sup>1</sup> Includes a balance of \$163,393.15 of the \$300,000 provided in the urgent deficiency act approved Feb. 28, 1916, and a balance of \$1,865.82 from the appropriation of \$35,000 included in the urgent deficiency act approved Jan. 25, 1915.

<sup>2</sup> Includes an immediately available appropriation of \$150,000, carried in the agricultural act for the fiscal year 1918.

Citrus-fruit breeding: Development by hybridization and selection of new and hardy types of citrus fruits with a view to extend the area of their growth in the United States.....	\$17,251.67	Supervision: General direction of field investigations, miscellaneous laboratory experiments, and clerical routine.....	\$5,085.57
Dry-land arboriculture: Experimental testing of deep-rooted and drought-resistant trees and shrubs better suited for culture in the dry-land regions of the United States than the shallow-rooted annual crops now grown.....	2,855.00	Acclimatization, adaptation, and breeding of cotton: Investigations of weevil-resistant and drought-resistant types of cotton, and study of the factors of local adjustment.....	31,116.00
Miscellaneous laboratory and field work: Includes investigations of pistache and truffle culture, electroculture, and the application of stimulation treatments to seeds and plants.....	1,123.33	Acclimatization, adaptation, and extension of corn: This project especially concerns tropical and subtropical varieties of corn and the extension of the culture of corn into regions where it is either not being grown or is a precarious crop.....	6,840.00
Total.....	58,103.50	Acclimatization and adaptation of tropical plants: Study of tropical fruits and vegetables in their native habitat, including coffee, cacao, rubber and rubber substitutes, economic palms, and bananas, and their adjustment to conditions in the United States and its insular possessions.....	3,158.00
<b>SOIL-BACTERIOLOGY AND PLANT-NUTRITION INVESTIGATIONS.</b>		Total.....	46,199.57
Total expenditures as above.....	\$46,616.12	<b>DRUG-PLANT, POISONOUS-PLANT, PHYSIOLOGICAL, AND FERMENTATION INVESTIGATIONS.</b>	
Outstanding liabilities, Aug. 31 (estimated).....	823.90	Total expenditures as above.....	\$59,530.76
Unexpended balance (estimated).....	291.20	Outstanding liabilities, Aug. 31 (estimated).....	1,628.41
Total allotment.....	<u>47,731.22</u>	Unexpended balance (estimated).....	1,807.67
Distributed among the several subactivities as follows:		Total allotment.....	<u>62,966.84</u>
Supervision: General direction of the investigations, office routine, and miscellaneous laboratory experiments.....	8,099.32	Distributed among the several subactivities as follows:	
Distribution and study of legume bacteria: Study of the life history of the nodule-forming bacteria and their distribution in pure cultures for the inoculation of leguminous crops.....	13,569.39	Supervision: General direction of field investigations, miscellaneous laboratory experiments, and clerical routine.....	10,226.75
Soil bacteriology: Investigation of the organisms causing decomposition in organic material in soils; determination of the relationships of the organisms which fix atmospheric nitrogen and those which cause nitrification in soils; study of the relation of soil bacteria to the growth of crop plants.....	14,872.56	Drug and related plants and their products: Study of the culture, handling, and improvement of plants yielding drugs, spices, oils, and related products and by-products, with a view to add profitable new crops and products to American plant industries.....	25,555.13
Nutrition of the date palm: Study of the optimum conditions for nutrition and fruit production of the date palm.....	1,118.73	Poisonous-plant investigations: Study of the geographical distribution and localization of poisonous plant, with special reference to those areas in which, owing to their abundance or concentration, they are believed to be especially harmful; study of poisonous plants with reference to the nature and pharmacological action of their constituents, methods of eradication, means of avoiding plants harmful to man, etc.....	2,421.22
Plant-nutrition investigations: Study of methods for determining the fertilizer requirements of crops and the functions of the different elements of plant food in their relation to the nutrition and composition of crop plants.....	9,780.02	Physiological and fermentation investigations: Technical physiological studies of crop plants and their products, conducted, in various instances, in cooperation with pathological and crop investigations of other offices of the bureau.....	22,956.07
Total.....	<u>47,440.02</u>	Total.....	<u>61,159.17</u>
<b>SOIL-FERTILITY INVESTIGATIONS.</b>		<b>AGRICULTURAL TECHNOLOGY AND FIBER-PLANT INVESTIGATIONS.</b>	
Total expenditures as above.....	\$35,475.96	Total expenditures as above.....	\$32,254.26
Outstanding liabilities, Aug. 31 (estimated).....	1,528.36	Outstanding liabilities, Aug. 31 (estimated).....	965.85
Unexpended balance (estimated).....	105.68	Unexpended balance (estimated).....	458.44
Total allotment.....	<u>37,110.00</u>	Total allotment.....	<u>33,678.55</u>
Study of the origin of organic constituents in soils; the cause of infertility and means of improvement and upbuilding of soils; and the various factors as influenced by fertilizers and soil amendments.....	37,004.32	Distributed among the several subactivities as follows:	
<b>CROP-ACCLIMATIZATION INVESTIGATIONS.</b>		Agricultural technology: Investigations of free-living and plant-infesting nematodes, improvement of agricultural apparatus, development of apparatus for solar and artificial projection in connection with illustrative work, and various other technological problems.....	23,933.42
Total expenditures as above.....	\$45,577.08		
Outstanding liabilities, Aug. 31 (estimated).....	622.49		
Unexpended balance (estimated).....	155.77		
Total allotment.....	<u>46,355.34</u>		
Distributed among the several subactivities as follows:			

Fiber-plant investigations: Investigations of the possibilities of the commercial culture of sisal, henequen, and similar hard-fiber plants in the United States and its insular possessions; extension of flax and hemp industries in this country, both for seed and fiber; investigations of plant fibers used in brushes, upholstery, and other textile lines; laboratory work in measuring and testing the tensile strength of fibers; and identification of fibers and fiber plants.....	\$9, 286. 69
Total.....	33, 220. 11
<b>GRAIN STANDARDIZATION.</b>	
Total expenditures as above.....	\$93, 144. 75
Outstanding liabilities, Aug. 31 (estimated).....	5, 221. 86
Unexpended balance (estimated).....	276. 07
Total allotment.....	98, 642. 68
Distributed among the several subactivities as follows:	
Supervision: General direction of grain-standardization investigations, including work at the laboratories maintained outside of Washington; fixing and promulgation of definite grades; and clerical and laboratory routine.....	13, 871. 64
Grain handling, grading, and transportation: Study of the influence on grades and market values of methods of handling grain on the farm, in transit on cars and steamships, and while in storage; study of the relation between the commercial grade of grain and its milling and baking value; laboratory experiments for determining moisture content, effect of chemical changes, various kinds of damage, shrinkage, etc., and the fundamental causes of deterioration, with a view to establish uniform and definite standards for the grading of commercial grain on the basis of intrinsic value.....	84, 494. 97
Total.....	98, 366. 61
<b>BIOPHYSICAL INVESTIGATIONS.</b>	
Total expenditures as above.....	\$35, 652. 33
Outstanding liabilities, Aug. 31 (estimated).....	2, 222. 27
Unexpended balance (estimated).....	137. 07
Total allotment.....	38, 011. 67
Distributed among the several subactivities as follows:	
Supervision: General direction of biophysical investigations, office routine, and construction and repair of apparatus.....	12, 066. 94
Cooperative biophysical investigations: Study and comparison of environmental conditions under which crops can be produced in the semiarid regions; investigation of the most efficient methods of conserving moisture and plant nutrients in the soil, and other related problems.....	6, 483. 87
Special biophysical investigations: Development of improved apparatus for the rapid determination of the moisture content of grain during transit; experiments in electroculture; methods of correcting unfavorable nutrient solutions in the soil which lead to malnutrition of plants; and various other biophysical experiments in cooperation with other offices of the bureau.....	19, 323. 79
Total.....	37, 874. 60

<b>SEED-TESTING LABORATORIES.</b>	
Total expenditures as above.....	\$37, 446. 11
Outstanding liabilities, Aug. 31 (estimated).....	1, 888. 64
Unexpended balance (estimated).....	754. 26
Total allotment.....	40, 089. 01
<b>Distributed among the several subactivities as follows:</b>	
Supervision: General supervisory and clerical work in connection with the various activities of the office.....	8, 853. 85
Seed testing: Making tests at laboratories in and out of Washington for germination and mechanical purity of samples of seeds submitted by farmers and seedsmen.....	17, 077. 04
Seed purity and vitality investigations: Tests to determine conditions required for rapid and complete germination and greater vitality and to distinguish the characters of closely allied economic seeds, in order to disseminate information as to the identity of various classes of commercial seeds.....	4, 410. 01
Adulterated-seed investigations: Testing commercial seeds for proof of adulteration, in accordance with law.....	4, 887. 11
Enforcement of the seed-importation act: Enforcement of the act of Aug. 24, 1912, prohibiting the importation of seeds adulterated or unfit for seeding purposes as defined in the act.....	4, 106. 74
Total.....	39, 334. 75
<b>CEREAL INVESTIGATIONS.</b>	
Total expenditures as above.....	\$174, 637. 19
Outstanding liabilities, Aug. 31 (estimated).....	9, 198. 67
Unexpended balance (estimated).....	1, 253. 84
Total allotment.....	185, 089. 70
Distributed among the several subactivities as follows:	
Supervision: General direction of field investigations, miscellaneous laboratory experiments, and clerical routine.....	14, 750. 20
Production and improvement of cereal crops and their products: Determination of varietal adaptations of wheat, oats, barley, rice, grain sorghums, broom corn, and other grains, and the factors influencing them; improvement of these crops through selection and hybridization of varieties and races; study and improvement of production methods; study of inheritance in hybrids; identification, description, and classification of varieties.....	88, 568. 37
Cereal and flax tillage and rotation investigations: Improvement in yield and quality of cereals and flax through better cultural methods and rotations and obviation of the necessity for frequent summer fallowing on certain dry lands of the West.....	2, 700. 00
Cereal and flax diseases: Laboratory and field experiments and studies in the life history of rusts, including black and stripe rust, smuts, scab, and other diseases of grain and flax, and of methods for their control; and the breeding of disease-resistant varieties.....	34, 136. 50
Corn improvement and production: Laboratory and field experiments in the production and improvement of corn; study of the effects on corn of heredity and environment; production of improved strains for the different geographical sections of the United States; and tests and demonstrations of the best practical methods of seedcorn selection, fumigation, drying, and preservation.....	43, 680. 79
Total.....	183, 835. 86

## TOBACCO INVESTIGATIONS.

Total expenditures as above.....	\$30,772.29
Outstanding liabilities, Aug. 31 (estimated).....	527.94
Unexpended balance (estimated).....	108.10
<b>Total allotment.....</b>	<b>31,408.33</b>

Distributed among the several subactivities as follows:

Supervision: General direction of tobacco investigations in and out of Washington, preparation of publications, laboratory experiments, and various details of clerical and scientific work..... 6,404.35

New England cigar-wrapper tobacco investigations: Study of improved methods of breeding, growing, curing, and handling cigar-wrapper tobacco..... 2,678.39

Maryland export tobacco investigations: Study of improved methods of growing, curing, and handling the crop, by means of breeding and selection, fertilization, and systems of rotation..... 1,439.00

Burley tobacco investigations: Development and test of pure strains of standard Burley varieties, determination of the fertilizer requirements and best systems of crop rotation for Burley tobacco, and the development of better cultural and curing methods..... 1,089.97

Western fire-cured tobacco investigations: Study of the fertilizer requirements, systems of crop rotation, and best cultural methods for producing fire-cured tobacco..... 1,112.95

New York binder and filler tobacco investigations: Development of improved types of tobacco by seed selection, the use of fertilizers, and the introduction of systems of crop rotation adapted to the culture of binder and filler leaf..... 1,822.17

Sun-cured, fire-cured, and flue-cured tobacco investigations: Development of improved types of tobacco by the adoption of proper rotation systems, fertilization, and breeding and selection, including the breeding of disease-resistant varieties..... 9,061.25

Pennsylvania cigar-filler tobacco investigations: Experiments to improve the yield and quality of cigar-filler and binder leaf by breeding and selection, and the development of better methods of growing, curing, and handling the crop..... 2,913.69

Wisconsin cigar-binder tobacco investigations: Field and laboratory studies of tobacco diseases, and experiments to ascertain the fertilizer and other requirements of the crop in this section..... 2,391.90

Miscellaneous tobacco investigations: Study of the physiology, pathology, and chemistry of the tobacco plant in relation to improved methods of growing, curing, fermenting, and handling the crop. This work supplies the fundamentals for the practical work in improving methods of tobacco production..... 2,386.56

**Total.....** 31,300.23

## PAPER-PLANT INVESTIGATIONS.

Total expenditures as above.....	\$11,382.32
Outstanding liabilities, Aug. 31 (estimated).....	1,488.45
Unexpended balance (estimated).....	739.23
<b>Total allotment.....</b>	<b>13,610.00</b>

Utilization of various wild and cultivated plants and crop wastes for paper making; study of the market conditions of these products; and breeding of plants that have paper-making value..... 12,870.77

## ALKALI AND DROUGHT RESISTANT PLANT INVESTIGATIONS.

Total expenditures as above.....	\$23,419.63
Outstanding liabilities, Aug. 31 (estimated).....	818.76
Unexpended balance (estimated).....	477.11
<b>Total allotment.....</b>	<b>24,715.50</b>

Distributed among the several subactivities as follows:

Supervision: General direction of field investigations and laboratory experiments, and office details.....	4,685.50
Breeding and physiology of alkali and drought resistant plants: Breeding of various crop plants suitable for cultivation under alkali and drought conditions; investigation of native vegetation of arid regions with a view to its use as an indicator in classifying land upon the basis of its crop-producing capabilities; and the development, by introduction and breeding, of drought and alkali resistant varieties of pomegranates.....	14,302.89
Egyptian cotton breeding: Production of varieties of Egyptian cotton yielding fiber of superior quality and thoroughly adapted to growing under irrigation in the southwestern United States.....	5,250.00
<b>Total.....</b>	<b>24,238.39</b>

## SUGAR-PLANT INVESTIGATIONS.

Total expenditures as above.....	\$49,035.89
Outstanding liabilities, Aug. 31 (estimated).....	2,944.65
Unexpended balance (estimated).....	714.46
<b>Total allotment.....</b>	<b>52,695.00</b>

Distributed among the several subactivities as follows:

Supervision: General direction of field investigations, miscellaneous laboratory experiments, and clerical routine.....	4,600.00
Sugar-beet investigations: Studies of diseases of sugar beets and the breeding of improved varieties; and investigation of the economic practices in crop production in sugar-beet areas.....	28,564.16
Sugar-beet seed production: The development and improvement of American strains of sugar-beet seed, and the establishment of a permanent sugar-beet seed industry in the United States.....	9,299.04
Sugar-cane sirup production: Investigations and demonstration of methods for the production of cane sirup, including the breeding, culture, and diseases of cane, the methods of manufacture, standardization, and marketing of sirup, and the utilization of cane by-products, with special reference to the farm production of cane sirup.....	9,517.34

<b>Total.....</b>	<b>51,980.54</b>
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## INVESTIGATIONS IN ECONOMIC AND SYSTEMATIC BOTANY.

Total expenditures as above.....	\$31,284.59
Outstanding liabilities, Aug. 31 (estimated).....	933.01
Unexpended balance (estimated).....	1,899.63
<b>Total allotment.....</b>	<b>34,117.23</b>

Distributed among the several subactivities as follows:

Supervision: General direction of investigational work and clerical routine.....	9,200.30
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Bibliographical work in the interest of botanical science: Maintenance of a card catalogue of botanical and horticultural works, including a list of scientific serials, for the purpose of improving bibliographical facilities for botanical workers.....	\$2,800.00	Distributed among the several subactivities as follows:
Range investigations: Study of the life history of forage plants of the national ranges; experiments in pasturing and in both natural and artificial reseeding of destructively overgrazed and worn-out range lands.....	1,530.22	Supervision: Planning and directing field investigations and conducting routine clerical work.....
Economic botany of native races: Utilization of valuable plant species in the western United States, Mexico, and South America, and collection of data regarding plants used by the American aborigines.....	3,280.09	Crop production under irrigation: Study of agricultural problems connected with subduing new and reclaimed lands and the best methods of tillage, irrigation, etc., necessary for the utilization of these lands; and the supervision of experimental work in cooperation with other branches of the Bureau of Plant Industry and the Reclamation Service.....
Botany of economic grasses: Collection and identification of economic grasses, both native plants and foreign introductions; preservation of authentic and correctly named specimens; and compilation of a manual of North American grasses.....	8,195.38	Total.....
Systematic work in economic botany: Includes an economic monograph of the heather and blueberry families, with special reference to their utilization in the United States; identification and classification of forage plants, ornamental trees and shrubs in the American nursery trade, and miscellaneous plant material; and records of the origin and character of varieties of ornamental plants originating under cultivation.....	7,211.61	<b>POMOLOGICAL INVESTIGATIONS.</b>
Total.....	32,217.60	Total expenditures as above..... \$119,683.38 Outstanding liabilities, Aug. 31 (estimated)..... 5,980.90 Unexpended balance (estimated)..... 930.82
<b>DRY-LAND AGRICULTURE INVESTIGATIONS.</b>		Total allotment..... 126,595.10
Total expenditures as above..... \$156,015.08		Distributed among the several subactivities as follows:
Outstanding liabilities, Aug. 31 (estimated)..... 9,817.75		Supervision: General direction of investigations and clerical routine.....
Unexpended balance (estimated)..... 243.00		Fruit handling, transportation, and storage: Study of the causes of deterioration and means of improving the keeping and carrying quality of fruit by better methods of picking, handling, precooling, and proper refrigeration during transit, in storage, and at market terminals.....
Total allotment..... 166,075.83		Viticultural investigations: Experiments in the culture of native and foreign varieties of grapes and in methods of handling and marketing grapes and grape products.....
Distributed among the several subactivities as follows:		Fruit-production investigations: Study of the adaptability of fruit varieties to environment in different sections, including the cultivation of fruits under semiarid conditions and in the national forests.....
Supervision: Planning and direction of field investigations, and clerical routine incident to the work.....	22,387.91	Nut-culture investigations: Determination of the range of adaptability of different nuts, the relative value and merit of different varieties, their cultural requirements, and methods of propagation; and the production of improved varieties.....
Methods of crop production under dry-land conditions: Experiments in crop rotation for the conservation of moisture and maintenance of humus in the soil, and other cultural methods for improving agricultural conditions in the Great Plains area.....	108,741.26	Fruit improvement through breeding, selection, and domestication: A general study of the laws of inheritance and other principles of fruit breeding involved in the propagation and culture of hardy and disease-resistant varieties in the different fruit-producing regions of the country.....
Northern Great Plains field station: Maintenance of an experimental farm to demonstrate the kind and character of plants, shrubs, trees, berries, and vegetables best adapted to the climate and soil of the semiarid regions.....	34,703.66	Investigations in systematic pomology: Assembling of general data regarding the origin and history of different fruit varieties in the United States, with special reference to old and little-known varieties; identification and naming of varieties; preparation of illustrations, models, and descriptions, and keys for use in making identification; and the verification of varieties, in order to secure a pure and stable nomenclature of the cultivated American fruits..
Total..... 165,832.83		Fruit utilization: Investigation of the best and most practical methods of using the lower grades of fruit and surplus stock which can not be marketed profitably in a fresh state.....
<b>WESTERN IRRIGATION AGRICULTURE INVESTIGATIONS.</b>		Total..... 1,250.00
Total expenditures as above..... \$80,403.16		Total..... 125,664.28
Outstanding liabilities, Aug. 31 (estimated)..... 3,971.26		
Unexpended balance (estimated)..... 168.95		
Total allotment..... 84,543.37		

## HORTICULTURAL INVESTIGATIONS.

Total expenditures as above.....	\$63,964.77
Outstanding liabilities, Aug. 31 (estimated).....	3,358.29
Unexpended balance (estimated).....	1,295.18
<b>Total allotment.....</b>	<b>68,618.24</b>

Distributed among the several subactivities as follows:

Supervision: General direction of investigations and clerical routine.....	7,982.17
Vegetable handling, transportation, and storage: Determination of the factors which govern the successful handling, transportation, and storage of vegetables, with a view to reduce decay.....	3,500.00

Truck-crop production: Surveys of truck-crop and market-gardening districts to determine the factors which limit crop production or cause crop deterioration; study of the best cultural methods, also of the value of organic soils with reference to their utility in the growing of vegetables; a comprehensive study of the peanut industry; and investigation of the commercial production of vegetable and flower seeds.....	15,444.50
Truck-crop improvement through breeding, selection, and domestication: Development of better strains and varieties; standardization of different varieties of vegetables with a view to secure uniformity in size, season, productiveness, etc.....	5,823.34

Irish-potato investigations: A comprehensive study of the culture, handling, and utilization of the potato, including the development of disease-resistant varieties.....	23,778.39
Investigations in systematic olericulture: Accumulation of data relating to the origin and history of varieties of vegetables, and establishment of a simple and stable nomenclature for the cultivated vegetables.....	1,570.00

Vegetable utilization: Investigations of the best and most practical methods of using the lower grades of vegetables and surplus stock which can not be marketed profitably in a fresh state.....	1,000.00
Landscape-gardening and floriculture investigations: Study of the arrangement, effects, and uses of trees, shrubs, and plants, on streets, parks, and lawns, and investigations of the efficiency of various systems of plant propagation.....	8,224.66
<b>Total.....</b>	<b>67,323.06</b>

## ARLINGTON FARM.

Total expenditures as above.....	\$30,085.12
Outstanding liabilities, Aug. 31 (estimated).....	1,565.03
<b>Total allotment.....</b>	<b>31,650.15</b>

Maintenance of a field laboratory providing facilities for a wide variety of testing, breeding, and selection work and for the investigation of methods of plant propagation; also includes collections of fruit and other horticultural varieties for systematic study, comparison, and description.....	31,650.15
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## EXPERIMENTAL GARDENS AND GROUNDS.

Total expenditures as above.....	\$54,342.41
Outstanding liabilities, Aug. 31 (estimated).....	450.43
Unexpended balance (estimated).....	17.50
<b>Total allotment.....</b>	<b>54,810.34</b>

The care and upkeep of the department grounds and greenhouses, including the construction and repair of greenhouses; growing and care of tropical and miscellaneous plants under glass; improvement of grounds (including the planting of trees, shrubs, etc.); experimental work with greenhouse crops, forcing of vegetables, growing florists' crops, etc.; providing greenhouse facilities for pathological and physiological experiments of various offices of the bureau; and general hybridization work.....	\$54,792.84
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## FOREIGN SEED AND PLANT INTRODUCTION.

Total expenditures as above.....	\$108,153.60
Outstanding liabilities, Aug. 31 (estimated).....	1,929.35
Unexpended balance (estimated).....	174.33
<b>Total allotment.....</b>	<b>110,257.28</b>

Distributed among the several subactivities as follows:

General direction of plant introductions: Securing new and valuable seeds and plants from all parts of the world and distributing them for test among experimenters in this country; maintenance of a plant-quarantine house; publishing inventories and bulletins of foreign introductions; recording all imported material and other necessary clerical routine.....	46,680.77
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Foreign explorations: This project covers the cost of sending out trained agricultural explorers to investigate agricultural methods and resources of foreign countries and search for seeds and plants that may be useful and profitable to American planters and to assist in the introduction and development of new plant industries.....	14,428.41
Plant-introduction field investigations: Maintenance of plant-introduction gardens at Chico, Cal., Miami and Brooksville, Fla., Rockville, Md., and Bellingham, Wash., for the purpose of testing and propagating new plant introductions and distributing them to suitable localities in this country.....	48,973.77
<b>Total.....</b>	<b>110,082.95</b>

## FORAGE-CROP INVESTIGATIONS.

Total expenditures as above.....	\$85,399.39
Outstanding liabilities, Aug. 31 (estimated).....	4,154.98
Unexpended balance (estimated).....	302.59
<b>Total allotment.....</b>	<b>89,856.96</b>

Distributed among the several subactivities as follows:

Supervision: General direction of field investigations and clerical routine.....	22,035.89
Forage-crop production and improvement: Tests and experiments with alfalfa, clover, grass, and miscellaneous forage crops, in both arid and semiarid regions, with a view to the development of better varieties through breeding and selection, improvement of cultural methods, etc.; weed and tillage investigations; and study of the cactus plant as a forage crop and as human food.....	67,518.48
<b>Total.....</b>	<b>89,554.37</b>

## SEED DISTRIBUTION.

Total expenditures as above.....	\$333,498.05							
Outstanding liabilities, Aug. 31 (estimated). . . . .	13,516.42							
Unexpended balance (estimated).....	519.89							
 Total allotment.....	 347,534.36							
 Distributed among the several subactivities as follows:								
Supervision: General direction of the pur- chase and distribution of seeds and plants, including routine office work.....	23,370.78							
Congressional distribution: Purchase, trans- portation, handling, packing, assembling, and mailing of vegetable, flower, cotton,								

tobacco, and lawn-grass seeds, Dutch bulbs, strawberry plants, and miscellaneous seeds and plants for distribution; cleaning seed purchased for distribution and investigation of seed-distribution methods; and commercial production of Dutch bulbs, with a view to establish the industry on a commercial basis in the United States..... \$259,020.68  
Purchase and distribution of new and rare seeds: Dissemination of new and rare high-grade seed of crops to sections where the data of the department indicate such crops to be of considerable promise..... 64,623.01

Total..... 347,014.47

## FOREST SERVICE.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.			Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.			Apparatus, instruments laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.					
1 Washington office.....	\$210,893.14	\$148,131.98	\$55,452.98	\$414,478.10	\$43,936.26	\$13,248.74	\$4,359.50	\$24,419.05
2 Headquarters, district 1.....	44,130.05		72,607.35	116,737.40	18,107.97			4,692.47
3 Headquarters, district 2.....	43,229.53		59,543.90	102,773.43	14,506.97			3,238.34
4 Headquarters, district 3.....	30,287.87		43,078.65	73,366.52	12,153.23			3,021.95
5 Headquarters, district 4.....	35,760.65		64,379.84	100,140.49	16,459.46			5,803.56
6 Headquarters, district 5.....	45,060.49		60,648.92	105,709.41	17,316.83			4,532.51
7 Headquarters, district 6.....	46,361.24		89,042.06	135,403.30	16,171.31			2,400.56
8 Headquarters, district 7.....	12,050.00		25,870.06	4,604.28				231.70
9 Forest-products laboratory.....	30,766.97		73,191.60	105,958.57	10,237.06			25,458.55
10 Supply depot, Ogden, Utah.....	13,897.78		1,334.77	15,232.55	220.95	3,351.15	16,663.76	36,332.71
11 Property auditor, Ogden, Utah.....	7,250.22		900.00	8,150.22	964.65			
12 Fremont experiment station.....	1,100.00		1,860.77	2,960.77	203.05			2,689.96
13 Wagon Wheel Gap experiment station.....			455.10	455.10				160.89
14 Fort Valley experiment station.....	2,667.50		4,897.64	7,565.14	994.49			1,512.75
15 Utah experiment station.....	189.22		9,328.48	9,517.70	379.36			781.94
16 Converse experiment station.....			1,986.18	1,986.18	437.15			121.66
17 Feather River experiment sta- tion.....	1,975.42		5,751.33	7,726.75	1,195.20			761.89
18 Wind River experiment station.....	956.39		3,970.16	4,926.55	425.79			1,151.23
19 Total (exclusive of the national forests).....	526,576.47	148,131.98	564,249.79	1,238,958.24	158,314.01	16,599.89	21,023.26	117,311.72
 NATIONAL FORESTS.								
20 Absaroka.....	842,467	13,545.83		4,538.58	18,084.41	2,165.26		
21 Alamo.....	603,779	11,909.06		5,105.44	17,014.50	1,907.60		1,421.53
22 Angeles.....	820,980	34,267.76		7,609.60	41,877.36	4,070.81		5,475.57
23 Apache.....	1,182,782	13,191.29		9,130.56	22,321.85	2,128.18		2,126.73
24 Arapahoe.....	634,903	11,605.41		7,007.08	18,612.49	1,967.50		1,487.99
25 Arkansas.....	626,746	16,636.31		12,380.61	29,016.92	3,517.67		1,491.04
26 Ashley.....	988,480	10,134.74		2,239.01	12,373.75	935.75		375.21
27 Battlement.....	651,227	9,824.52		4,649.14	14,473.66	1,714.49		748.82
28 Beartooth.....	662,537	9,781.11		5,017.87	14,798.98	2,524.75		604.09
29 Beaverhead.....	1,337,223	12,973.88		3,515.64	16,489.52	1,551.73		1,935.65
30 Bighorn.....	1,119,725	11,345.89		15,499.28	26,845.17	1,276.73		2,073.62
31 Bitterroot.....	1,047,012	12,887.50		8,129.73	21,017.23	1,855.42		1,263.08
32 Blackfeet.....	865,077	10,919.16		11,604.06	22,523.22	1,963.06		2,696.07
33 Black Hills.....	628,162	20,160.24		18,227.48	38,387.72	4,279.58		1,888.04
34 Boise.....	1,058,941	16,687.29		3,653.08	20,340.37	1,512.85		2,300.38
35 Bridger.....	710,570	7,732.52		2,203.47	9,935.99	846.59		1,448.07
36 Cabinet.....	830,676	11,028.88		11,039.63	22,068.51	2,788.32		2,247.34
37 Cache.....	779,211	16,590.46		3,767.12	20,357.58	1,552.52		639.63
38 California.....	807,444	12,006.68		8,751.56	20,758.24	1,900.11		4,762.98
39 Caribou.....	688,087	10,225.00		2,461.10	12,686.10	1,373.30		842.25
40 Carson.....	856,647	16,534.77		6,818.84	23,353.61	2,162.85		1,640.93
41 Cascade.....	1,021,461	10,528.90		18,159.90	28,688.80	1,433.83		4,458.09
42 Chalilis.....	1,259,237	9,741.66		2,503.56	12,245.22	563.18		657.19
43 Chelan.....	677,429	6,500.00		4,914.89	11,414.89	1,607.71		1,444.61
44 Chiricahua.....	474,635	5,500.19		7,415.02	12,915.21	1,045.97		1,596.01
45 Chugach.....	5,418,753	6,347.80		9,097.16	15,444.96	4,157.30		1,185.86
46 Clearwater.....	785,103	9,758.61		21,559.25	31,317.86	1,092.40		3,701.79
47 Cleveland.....	547,981	15,488.61		15,859.47	31,348.08	2,734.83		5,205.99
48 Cochetopa.....	905,723	10,348.69		6,360.22	16,708.91	2,429.75		1,621.58
49 Coconino.....	1,601,598	23,237.26		27,368.92	50,606.18	4,951.14		6,902.91
50 Coeur d'Alene.....	662,611	11,933.35		95,059.64	107,042.99	6,393.55		24,467.93
51 Colorado.....	847,328	9,053.32		2,124.13	11,177.45	1,433.82		771.38
52 Columbia.....	784,498	8,544.98		15,032.77	23,577.75	1,519.55		6,028.69
53 Coville.....	754,886	11,272.22		3,706.20	14,978.42	2,163.18		987.26
54 Coronado.....	959,304	14,694.77		9,131.74	23,826.51	3,390.63		4,741.73
55 Crater.....	840,021	17,851.14		20,601.49	38,452.63	4,936.05		2,596.16
56 Crook.....	870,130	8,996.80		1,820.12	10,816.92	1,165.84		815.41
57 Custer.....	428,922	6,875.26		1,261.72	8,136.98	854.23		985.97
58 Dakota <sup>1</sup> .....	6,054							

<sup>1</sup> Forest abandoned July 31, 1917; no expenditures during fiscal year 1917.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Total expenditures as above.....	\$38,549.34
Outstanding liabilities, Aug. 31 (estimated).....	1,543.49
Unexpended balance (estimated).....	<u>357.17</u>
 Total allotment.....	40,450.00

Assistance to settlers on the reclamation projects in the development of local agricultural industries by supplying information, making suggestions, and conducting demonstrations relating to agricultural industries and farm practices. .... \$40,092.83

FOREST SERVICE.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellane- ous supplies, services, etc.	Total.
\$12,199.75	\$138.20	\$6,822.39	\$3,904.50	-----	-----	-----	\$523.50	\$5,354.27	\$529,384.26
	882.00	318.18	872.04	-----	-----	-----	8.33	289.17	141,907.56
		618.70	777.60	-----	-----	-----	1.30	101.80	122,016.84
	3,713.96	981.10	363.68	-----	-----	-----	1.30	91.89	93,693.63
	3,035.87	1,386.42	1,364.11	-----	-----	-----	592.58	128,782.49	-----
	6,991.24	888.72	743.11	-----	-----	-----	357.54	136,804.75	-----
	8,323.11	1,001.24	492.77	-----	-----	-----	7.85	.60	163,800.74
		3.15	156.40	-----	-----	-----	62.64	30,928.23	-----
		367.65	1,919.67	\$66.30	-----	-----	1,160.82	145,168.62	-----
32,474.05	3,092.17	74.14	13,740.03	-----	-----	-----	34.40	362.87	121,578.78
	5.50	8.13	394.17	-----	-----	-----	3.00	6,264.58	9,114.87
		30.35	-----	-----	-----	-----	646.34	-----	646.34
	231.55	22.49	153.60	-----	129.32	-----	64.23	10,673.57	10,673.57
			47.69	418.45	-----	-----			11,145.14
	14.20	29.14	-----	-----	-----	-----		2,588.33	10,144.04
	173.42	13.11	191.13	-----	82.54	-----	10.24	74.23	10.24
			-----	-----	19.00	-----	4.10	6,611.14	6,611.14
44,673.80	26,587.02	12,560.21	25,223.87	66.30	914.70	-----	575.38	8,445.51	1,671,253.91
	77.00	195.69	339.31	-----	768.31	-----	29.25	88.01	23,433.69
	637.50	57.85	298.31	-----	780.47	-----	25.28	5.00	22,148.04
	464.89	671.29	2,711.54	-----	1,456.60	-----	-----	30.00	56,788.06
	171.85	161.45	847.19	-----	1,346.04	-----	36.35	2.00	29,141.64
	359.33	210.68	270.12	-----	917.61	-----	51.02	14.10	23,890.87
	67.90	266.83	51 <sup>4</sup> .28	-----	872.78	-----	54.04	61.47	35,862.93
	286.30	63.90	197.98	-----	518.68	-----	20.68	79.53	14,851.78
	351.00	93.28	581.30	-----	573.25	-----	-----	39.04	18,574.84
	490.00	163.88	264.31	-----	295.49	-----	32.00	55.10	19,228.60
	360.00	64.23	394.38	-----	632.65	-----	8.66	12.34	21,479.16
	1.50	138.59	1,544.66	-----	738.88	-----	13.55	.50	32,632.82
	881.44	186.52	239.06	-----	124.23	-----	34.41	33.87	25,635.26
		92.03	362.26	-----	867.05	-----	31.10	89.55	38,624.34
	18.30	64.65	695.66	-----	1,033.85	-----	50.38	13.69	46,431.87
	612.50	106.30	553.15	-----	1,758.14	-----	23.70	10.21	26,217.60
	47.09	120.45	344.84	-----	703.79	-----	2.95	13.22	13,462.99
	386.65	57.13	978.13	-----	186.95	-----	109.10	381.96	29,204.09
	93.88	94.87	415.24	-----	773.70	-----	87.29	58.35	30.06
	561.31	88.73	2,499.43	-----	1,465.06	-----	-----	32,073.06	32,073.06
	445.50	68.04	58.82	-----	780.21	-----	26.92	19.48	16,300.62
	509.66	196.02	531.29	-----	1,309.83	-----	44.50	2.60	29,751.29
	226.63	59.99	1,044.81	-----	300.04	-----	3.02	4.70	36,219.91
	254.00	3.26	159.65	-----	647.88	-----	10.65	52.53	14,593.56
	510.85	37.50	311.82	-----	118.75	-----	14.79	7.45	15,468.37
		1.96	686.53	-----	326.66	-----	13.05	32.75	16,618.14
	348.36	183.39	550.91	-----	473.46	-----	6.25	21,577.03	44,367.55
	360.60	146.73	330.51	-----	555.56	-----	548.21	38,086.66	38,086.66
	529.04	172.69	882.82	-----	806.61	-----	5.88	1,012.90	42,638.86
	349.09	113.51	522.01	-----	876.34	-----	24.60	4.05	22,649.84
	841.00	111.60	1,676.85	-----	1,801.55	-----	53.72	16.80	66,961.75
	676.25	258.57	4,243.48	-----	550.69	-----	72.77	1,380.48	145,086.71
		163.51	343.83	-----	473.46	-----	9.00	16.35	10,432.25
	828.95	79.96	703.35	-----	272.60	-----	79.36	6.50	33,096.71
	707.50	51.21	228.97	-----	90.17	-----	15.71	.95	19,223.37
	662.82	120.66	2,825.26	-----	633.67	-----	30.43	50.10	36,281.81
	27.48	289.11	734.65	-----	976.43	-----	3.78	10.45	49,026.74
	313.56	61.00	369.55	-----	781.80	-----	6.90	14,330.98	14,330.98
	86.00	36.13	61.36	-----	246.23	-----	9.00	-----	50.50

## FOREST SERVICE—Continued.

Classification of expenditures for the fiscal year ended June 30, 1917—Continued.

Project.	Acres, net.	Salaries.			Travel, station, and field expenses.	Equipment.			
		Statutory.	Lump fund.			Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
			In Wash- ington.	Out of Washington.					
NATIONAL FORESTS—continued.									
59 Datil...	2,670,412	\$19,303.63	.....	\$9,818.81	\$29,122.44	\$2,694.76	.....	\$3,969.68	
60 Deerlodge...	833,178	24,338.04	.....	9,965.90	34,303.94	3,029.96	.....	3,453.97	
61 Deschutes...	1,292,423	11,951.65	.....	8,569.39	20,521.04	2,691.42	.....	2,568.64	
62 Dixie...	733,007	6,672.62	.....	4,373.81	11,047.43	781.08	.....	1,844.67	
63 Durango...	614,129	10,522.70	.....	3,125.22	13,647.92	819.13	.....	1,063.51	
64 Eldorado...	549,792	10,186.20	.....	10,011.83	20,198.03	1,602.04	.....	2,817.31	
65 Fillmore...	699,579	10,425.42	.....	4,546.62	14,972.04	1,589.29	.....	1,357.71	
66 Fishlake...	661,245	11,469.43	.....	2,313.45	13,782.88	917.01	.....	972.24	
67 Flathead...	1,802,905	19,742.19	.....	28,335.31	48,077.50	2,507.44	.....	4,680.72	
68 Florida...	308,268	9,383.86	.....	5,974.42	15,358.28	1,167.33	.....	1,511.33	
69 Fremont...	884,494	10,227.30	.....	3,411.76	13,639.06	1,854.53	.....	1,486.97	
70 Gallatin...	564,855	10,623.62	.....	3,130.82	13,754.44	1,150.32	.....	1,278.00	
71 Gila...	1,463,708	15,940.31	.....	11,315.01	27,255.32	2,292.52	.....	2,084.17	
72 Gunnison...	908,055	12,157.77	.....	4,123.88	16,281.65	1,401.71	.....	1,025.49	
73 Harney...	548,854	12,224.08	.....	8,930.02	21,154.10	2,461.44	.....	1,552.91	
74 Hayden...	387,773	8,149.17	.....	3,288.62	11,437.79	840.53	.....	746.49	
75 Helena...	687,983	13,367.76	.....	2,456.17	15,823.93	2,374.57	.....	744.01	
76 Holy Cross...	576,905	11,025.52	.....	3,959.95	14,985.47	1,608.03	.....	1,184.41	
77 Humboldt...	690,562	8,093.28	.....	1,777.35	9,870.63	1,044.50	.....	532.47	
78 Idaho...	1,193,439	11,437.22	.....	14,795.44	26,232.66	941.92	.....	4,098.26	
79 Inyo...	1,342,797	7,567.49	.....	1,262.54	8,830.03	1,050.32	.....	856.25	
80 Jefferson...	1,039,766	17,787.21	.....	40,402.35	58,189.56	3,919.42	.....	7,092.98	
81 Kaibab...	1,072,375	5,165.30	.....	3,332.54	8,497.84	225.42	.....	1,642.74	
82 Kaniksu...	456,616	13,166.66	.....	15,027.79	28,194.45	4,178.01	.....	3,635.88	
83 Klamath...	1,475,242	13,526.45	.....	26,997.92	40,524.37	3,140.07	.....	4,584.01	
84 Kootenai...	1,336,061	17,962.45	.....	12,374.63	30,337.10	2,238.37	.....	2,718.85	
85 La Sal...	546,828	7,463.90	.....	2,616.36	10,080.26	568.03	.....	890.40	
86 Lassen...	936,877	12,435.82	.....	12,662.74	25,098.56	2,403.41	.....	3,990.79	
87 Leadville...	934,017	11,211.05	.....	5,852.89	14,063.94	1,746.27	.....	603.77	
88 Lemhi...	1,095,924	8,082.22	.....	897.62	8,979.84	885.06	.....	212.76	
89 Lewis and Clark...	811,161	10,532.50	.....	6,330.85	16,363.35	3,047.56	.....	2,106.87	
90 Lincoln...	551,427	8,040.68	.....	3,105.58	11,146.26	1,562.81	.....	681.33	
91 Lolo...	850,677	14,342.77	.....	20,737.27	35,080.04	2,029.20	.....	7,163.61	
92 Luquillo...	12,443	.....	.....	166.67	166.67	61.50	.....	.....	
93 Madison...	958,691	11,286.68	.....	2,316.15	13,602.83	1,763.10	.....	657.43	
94 Malheur...	1,057,682	8,718.13	.....	3,567.03	12,285.16	1,066.63	.....	337.05	
95 Manti...	781,800	16,160.35	.....	4,072.49	20,232.84	1,320.84	.....	1,156.63	
96 Manzano...	782,480	9,484.75	.....	2,842.79	12,327.54	1,602.58	.....	750.75	
97 Medicine Bow...	469,786	11,242.59	.....	3,751.90	18,594.49	2,214.12	.....	733.87	
98 Michigan...	89,466	5,068.31	.....	3,573.73	8,642.04	1,559.30	.....	958.72	
99 Minam...	430,757	6,212.23	.....	5,586.84	11,799.17	906.50	.....	1,051.70	
100 Minidoka...	581,659	9,722.95	.....	1,830.51	11,553.46	1,213.13	.....	1,881.69	
101 Minnesota...	190,602	7,100.00	.....	5,307.95	12,407.95	899.57	.....	1,877.79	
102 Missoula...	1,031,529	9,486.67	.....	5,375.71	14,862.38	1,139.32	.....	2,647.42	
103 Modoc...	1,182,986	11,297.17	.....	5,646.96	16,944.13	2,501.91	.....	1,849.18	
104 Mono...	1,248,935	7,670.85	.....	1,655.21	9,356.06	1,126.71	.....	1,075.25	
105 Monterey...	316,058	15,839.49	.....	3,588.46	19,397.95	2,059.51	.....	2,283.36	
106 Montezuma...	700,082	12,071.02	.....	2,248.25	14,319.27	1,973.88	.....	1,419.95	
107 Nebraska...	206,074	4,108.87	.....	19,621.41	23,730.28	772.09	.....	8,862.65	
108 Nevada...	1,220,929	6,218.06	.....	1,568.97	7,787.03	891.03	.....	251.22	
109 Nezperce...	1,624,582	12,228.32	.....	11,066.90	23,295.22	1,670.76	.....	1,498.59	
110 Ochoco...	716,564	9,107.58	.....	4,837.30	13,944.88	1,215.70	.....	1,715.45	
111 Okanogan...	1,486,325	10,820.83	.....	9,822.50	20,643.33	2,450.16	.....	1,497.71	
112 Olympic...	1,534,689	11,421.73	.....	19,056.47	30,478.20	4,042.91	.....	2,076.87	
113 Oregon...	1,031,926	17,417.60	.....	23,386.74	40,804.34	2,250.12	.....	5,735.25	
114 Ozark...	291,840	10,570.34	.....	7,728.29	18,298.63	2,267.12	.....	1,064.90	
115 Palisade...	533,996	8,167.30	.....	10,879.13	19,046.43	1,783.59	.....	4,222.50	
116 Payette...	831,926	14,101.19	.....	7,512.79	21,613.98	948.53	.....	1,597.38	
117 Pend Oreille...	676,014	11,121.40	.....	14,336.10	28,457.50	2,418.73	.....	1,743.69	
118 Pike...	1,080,381	19,544.37	.....	25,628.81	45,173.18	4,157.22	.....	5,903.32	
119 Plumas...	1,144,835	17,019.72	.....	18,275.35	35,295.07	6,322.39	.....	4,047.94	
120 Powell...	689,927	6,825,02	.....	1,840.15	8,665.17	423.50	.....	810.97	
121 Prescott...	1,433,366	16,285.04	.....	2,761.33	19,046.42	2,464.77	.....	2,309.77	
122 Rainer...	1,315,891	13,635.23	.....	12,901.49	26,536.72	1,862.79	.....	1,686.88	
123 Rio Grande...	1,136,884	13,537.94	.....	5,583.93	18,121.87	2,034.22	.....	1,594.30	
124 Routt...	833,459	11,456.85	.....	9,115.78	20,572.63	1,919.72	.....	2,413.15	
125 Ruby...	342,405	2,672.91	.....	1,216.36	3,880.27	440.41	.....	268.96	
126 St. Joe...	493,925	9,760.55	.....	19,147.21	28,907.76	3,007.05	.....	2,929.29	
127 Salmon...	1,621,707	13,749.43	.....	7,445.71	21,195.14	719.58	.....	332.35	
128 San Isabel...	598,912	11,576.79	.....	1,866.78	13,443.57	1,470.94	.....	652.48	
129 San Juan...	617,995	9,339.85	.....	2,400.63	11,740.48	1,283.61	.....	1,113.48	
130 Santa Barbara...	1,688,571	20,624.36	.....	13,040.03	33,664.44	2,304.89	.....	2,313.86	
131 Santa Fe...	1,354,545	23,990.50	.....	21,801.33	45,791.83	4,409.10	.....	5,520.14	
132 Santa Rosa...	269,658	3,398.80	.....	605.50	4,004.30	382.50	.....	316.79	
133 Santiam...	607,099	6,443.10	.....	12,782.29	19,225.39	1,317.06	.....	2,122.40	
134 Sawtooth...	1,203,387	10,266.95	.....	2,854.63	13,121.58	797.44	.....	1,102.22	
135 Selway...	1,693,711	10,040.83	.....	23,735.45	33,776.28	1,518.10	.....	4,156.12	
136 Sequoia...	2,194,926	18,849.15	.....	13,223.23	32,072.38	2,818.67	.....	4,261.75	
137 Sevier...	729,061	11,669.18	.....	3,547.35	15,216.53	1,456.64	.....	737.30	
138 Shasta...	803,448	15,689.76	.....	19,129.80	34,819.56	4,268.97	.....	4,333.43	
139 Shoshone...	1,576,043	11,940.40	.....	5,231.62	17,172.03	1,714.20	.....	1,744.70	
140 Sierra...	1,489,934	18,461.84	.....	19,640.22	33,102.06	2,855.17	.....	4,235.83	
141 Sioux...	172,267	7,410.83	.....	5,270.83	12,681.66	1,680.05	.....	724.72	
142 Siskiyou...	1,347,113	12,814.67	.....	14,650.46	27,465.13	2,366.52	.....	1,711.16	
143 Sitgreaves...	659,337	15,725.29	.....	5,039.26	20,764.55	2,502.09	.....	1,237.51	
144 Siuslaw...	544,178	7,766.67	.....	12,252.56	20,019.23	2,330.53	.....	3,169.54	
145 Snoqualmie...	698,043	11,683.02	.....	15,985.84	27,668.86	2,503.00	.....	4,075.78	

STATEMENT OF EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

31

**FOREST SERVICE**—Continued.

*Classification of expenditures for the fiscal year ended June 30, 1917—Continued.*

## FOREST SERVICE—Continued.

Classification of expenditures for the fiscal year ended June 30, 1917—Continued.

Project.	Acres, net.	Salaries.		Total.	Travel, station, and field expenses.	Equipment.			
		Statutory.	Lump fund.			Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
			In Wash- ington,	Out of Washington.					
<b>NATIONAL FORESTS—Continued.</b>									
146 Sopris.....	\$596,986	\$12,553.39		\$2,027.51	\$14,580.90	\$1,350.93		\$969.17	
147 Stanislaus.....	810,399	13,176.37		15,399.71	28,576.08	2,031.58		3,111.05	
148 Superior.....	857,255	12,018.33		20,420.62	32,438.95	2,195.15		3,187.03	
149 Tahoe.....	557,079	17,826.98		20,567.84	38,394.82	3,732.85		4,920.57	
150 Targhee.....	779,322	11,945.73		3,010.49	14,956.22	1,469.45		2,491.66	
151 Teton.....	1,922,947	7,785.68		3,958.50	11,744.18	75.02		1,600.63	
152 Toiyabe.....	1,907,286	8,030.26		1,624.70	9,654.96	2,095.67		295.22	
153 Tongass.....	15,451,716	13,647.20		14,101.76	27,838.96	5,691.04		9,026.26	
154 Tonto.....	1,994,239	15,511.69		20,370.55	35,882.24	2,967.96		11,277.12	
155 Trinity.....	1,430,517	13,375.91		57,900.18	71,276.09	3,159.88		14,001.45	
156 Tusayan.....	1,602,750	15,428.53		6,011.48	21,440.01	2,591.36		3,111.70	
157 Uinta.....	988,602	15,457.31		12,140.76	27,598.07	1,881.66		2,335.98	
158 Umatilla.....	485,756	7,583.52		3,896.62	11,480.14	1,015.27		708.07	
159 Umpqua.....	1,011,097	9,172.94		14,546.31	23,719.25	1,794.77		2,188.53	
160 Uncompahgre.....	790,349	12,276.95		4,945.72	17,222.67	1,564.93		759.79	
161 Wallowa.....	964,601	13,093.29		6,557.40	19,650.69	2,440.71		1,733.48	
162 Wasatch.....	607,492	11,685.00		8,177.29	19,865.29	1,723.66		1,078.43	
163 Washakie.....	852,653	11,799.29		3,892.22	15,691.51	1,588.48		1,486.65	
164 Washington.....	1,454,214	7,645.84		7,598.79	15,244.63	1,384.52		825.86	
165 Weiser.....	562,699	12,376.12		5,668.55	18,044.67	1,241.87		1,532.29	
166 Wenaha.....	738,938	7,530.51		4,277.51	11,808.02	1,563.82		1,204.57	
167 Wenatchee.....	665,276	11,933.92		20,257.69	32,191.61	2,899.61		3,818.33	
168 White River.....	848,018	11,989.44		5,775.29	17,764.73	2,181.66		1,526.94	
169 Whitman.....	884,485	16,861.26		10,243.73	27,104.99	3,749.27		2,257.03	
170 Wichita.....	61,480	2,380.84		2,958.10	5,338.94	484.09		824.87	
171 Wyoming.....	839,980	9,643.31		3,368.87	13,012.18	1,587.20		726.19	
172 New forests.....	947,197	12,437.51		62,566.82	75,004.33	7,805.78		6,621.24	
Total, national forests.....	1,798,232.81			1,531,426.25	3,329,659.06	312,215.02		381,092.48	
Grand total.....	2,324,809.28	\$148,131.98	1	2,095,676.04	4,568,617.30	470,529.03	\$16,599.89	\$21,023.26	
								498,404.20	

<sup>1</sup> Includes wages and subsistence of temporary employees.

## PROJECT STATEMENTS.

WASHINGTON OFFICE.<sup>1</sup>

Total expenditures.....	\$648,497.48
Outstanding liabilities, Aug. 31.....	26,055.40
Total allotment.....	674,552.88

Distributed among the several subactivities as follows:

Forester's office: General administrative supervision and control of all activities in the Washington office, Forest Products Laboratory, district headquarters, and 152 national forests, and administration of land purchased under the Weeks forestry law.....

Operation: Administrative and supervisory work done in or directed by this office.....

Silviculture: Administrative, supervisory, and State and Federal cooperative work done in or directed by this office.....

Grazing: Administrative and investigative work done in or directed by this office..

Lands: Administrative work done in or directed by this office.....

Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force)....

Research: Administrative and investigative work done in or directed by this office:

- Washington office..... \$81,562.50
- Forest Products Laboratory, Madison, Wis..... 145,168.62

Total..... 674,552.88

## DISTRICT HEADQUARTERS.

## District 1 (Missoula, Mont.).

Total expenditures.....	\$141,243.06
Outstanding liabilities, Aug. 31.....	664.50

Total allotment..... 141,907.56

Distributed among the several subactivities as follows:

District forester's office: General supervision of 26 national forests, aggregating 22,501,603 acres.....	16,909.29
Operation: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	26,232.60
Silviculture: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force)....	30,697.03
Grazing: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	8,205.44
Lands: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	27,991.91
Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force)....	15,131.39
Research: Administrative and investigative work done in or directed by this office...	16,739.90

Total..... 141,907.56

<sup>1</sup> Includes supervision of Forest Products Laboratory at Madison, Wis.

## FOREST SERVICE—Continued.

Classification of expenditures for the fiscal year ended June 30, 1917—Continued.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellane- ous supplies, services, etc.	Total.	
	\$306.80	\$136.77	\$492.88		\$978.97		\$19.05		\$18,835.47	
	674.25	69.21	822.31		2,264.79		20.37	\$0.25	37,569.89	
	465.99	53.73	1,700.73		180.60		24.29	6.00	40,252.47	
	771.73	216.29	3,282.15		1,983.16		7.07	1.50	53,310.14	
	372.33	154.88	135.58		545.30		30.75	47.00	20,203.17	
	212.40	84.00	232.89		292.70		11.36	66.75	14,319.93	
	407.05	115.40	195.04		147.25		35.70	104.20	13,050.49	
	863.02	54.26	239.50				64.18	73.44	43,850.66	
	59.10	.80	5,989.45		4,459.62		5.50	138.65	60,780.44	
	651.17	71.08	2,328.74		2,857.95		25.75	552.40	94,924.51	
	730.11	62.07	784.99		1,384.72		59.99	10.50	30,175.45	
	601.00	49.59	632.97		1,047.70		14.66	30.06	34,191.69	
	54.17	117.56	275.99		107.05		14.50		13,772.75	
	498.51	164.85	602.39		783.26		4.65	8.52	29,764.73	
	472.60	113.33	123.62		1,256.02			1.50	21,514.46	
	382.18	66.24	311.89		149.36		9.75	.75	24,745.05	
	24.75	109.32	312.62		553.98		48.38	3.35	23,719.78	
		132.81	256.16		861.42		6.44	2.13	20,025.60	
	4.00	148.98	166.32		78.31		12.03		17,864.65	
	427.07	70.40	193.12		408.82		26.05	39.25	21,983.54	
	15.25	83.93	158.34		262.19		20.90	3.00	15,120.02	
	440.33	147.01	874.95		293.55		17.28	80.90	40,763.57	
	266.97	278.23	595.47		583.07		6.30	.85	23,204.22	
	569.07	127.29	685.17		507.28		67.95	3.80	35,071.85	
		42.75							6,690.65	
	505.04	68.71	119.28		512.01		23.44	103.60	16,657.65	
	2,027.84	1,078.64	2,299.52		1,538.12		101.88	164.60	96,641.95	
	62,110.11	17,289.15	108,730.49		114,206.51		4,023.96	12,900.63	4,342,227.41	
	\$44,673.80	88,697.13	23,849.36	133,954.36	\$66.30	115,121.21		24,599.34	21,346.14	6,013,481.32

\* Advertising.

## District 2 (Denver, Colo.).

Total expenditures.....	\$121,682.25
Outstanding liabilities, Aug. 31.....	334.59
<b>Total allotment.....</b>	<b>122,016.84</b>

Distributed among the several subactivities as follows:

District forester's office: General supervision of 29 national forests, aggregating 20,912,316 acres.....

Operation: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....

Silviculture: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force)....

Grazing: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....

Lands: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....

Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force)....

Research: Administrative and investigative work done in or directed by this office..

21,571.50

37,128.62

21,522.44

7,385.50

17,021.57

14,071.03

3,316.18

## District 3 (Albuquerque, N. Mex.).

Total expenditures.....	\$93,528.26
Outstanding liabilities, Aug. 31.....	165.37

<b>Total allotment.....</b>	<b>93,693.63</b>
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Distributed among the several subactivities as follows:

District forester's office: General supervision of 16 national forests, aggregating 19,061,139 acres.....

Operation: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....

Silviculture: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force)....

Grazing: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....

Lands: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....

Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force)....

Research: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....

Total.....

*District 4 (Ogden, Utah).*

Total expenditures.....	\$124,606.72
Outstanding liabilities, Aug. 31.....	4,175.77
 Total allotment.....	 <hr/>
Distributed among the several subactivities as follows:	
District forester's office: General supervision of 31 national forests, aggregating 27,941,608 acres.....	17,670.78
Operation: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	32,830.14
Silviculture: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	28,129.29
Grazing: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	10,654.74
Lands: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	21,705.96
Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	13,311.77
Research: Administrative and investigative work done in or directed by this office.....	4,479.81
 Total.....	 128,782.49

*District 5 (San Francisco, Cal.).*

Total expenditures.....	\$133,578.72
Outstanding liabilities, Aug. 31.....	3,226.03
 Total allotment.....	 <hr/>
Distributed among the several subactivities as follows:	
District forester's office: General supervision of 18 national forests, aggregating 19,348,831 acres.....	23,928.83
Operation: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	40,515.35
Silviculture: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	13,378.95
Grazing: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	13,000.25
Lands: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	17,126.02
Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	20,418.50
Research: Administrative and investigative work done in or directed by this office.....	8,436.85
 Total.....	 136,804.75

*District 6 (Portland, Oreg.).*

Total expenditures.....	\$162,966.15
Outstanding liabilities, Aug. 31.....	834.59
 Total allotment.....	 <hr/>
Distributed among the several subactivities as follows:	
District forester's office: General supervision of 27 national forests, aggregating 44,100,345 acres.....	17,552.25
Operation: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	36,037.89
Silviculture: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	35,471.38
Grazing: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	5,418.33
Lands: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	35,887.46
Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	16,369.73
Research: Administrative and investigative work done in or directed by this office.....	17,063.70
 Total.....	 163,800.74

*District 7 (Washington, D. C.).*

Total expenditures.....	\$30,751.27
Outstanding liabilities, Aug. 31.....	176.96
 Total allotment.....	 <hr/>
Distributed among the several subactivities as follows:	
District forester's office: General supervision of five national forests, aggregating 1,300,777 acres, and 12 areas purchased or approved for purchase under the Weeks forestry law and aggregating 947,197 acres.....	12,140.63
Operation: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	6,640.83
Silviculture: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	3,715.70
Lands: Administrative and investigative work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	5,038.18
Engineering: Administrative and supervisory work done in or directed by this office (supplementing the part time and expenses of the national forest force).....	781.24
Research: Administrative and investigative work done in or directed by this office.....	2,611.65
 Total.....	 30,928.23

## SUPPLY DEPOT, OGDEN, UTAH.

Total expenditures.....	\$115,235.55
Outstanding liabilities, Aug. 31.....	6,343.23
Total allotment.....	<u>121,578.78</u>

Purchase and distribution of supplies for the whole service outside of the Washington office.....	121,578.78
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## PROPERTY AUDITOR, OGDEN, UTAH.

Total expenditures.....	\$9,114.87
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Record supervision and inspection of all property of the Forest Service.

## EXPERIMENT STATIONS.

Total expenditures.....	\$53,222.65
Outstanding liabilities, Aug. 31.....	163.20

Total allotment.....	<u>53,385.85</u>
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Distributed among the several stations as follows:

Experiment stations:	
District 2, Fremont, Manitou, Colo....	6,264.58
District 2, Wagon Wheel Gap, Wagon Wheel Gap, Colo.....	646.34
District 3, Fort Valley, Flagstaff, Ariz.....	10,673.57
District 4, Utah, Ephraim, Utah.....	11,145.14
District 5, Converse, Seven Oaks, Redlands, Cal.....	2,588.33
District 5, Feather River, Quincy, Cal.....	10,144.04
District 6, Wind River, Carson, Wash.....	6,611.14

Total.....	<u>48,073.14</u>
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Total, Forest Service, exclusive of national forests.....	1,671,253.91
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## THE NATIONAL FORESTS.

[152 national forests and 12 Appalachian purchase areas, comprising a net area of 156,113,816 acres.]

Total expenditures.....	\$4,299,621.50
Outstanding liabilities, Aug. 31.....	42,605.91

Total allotment.....	<u>4,342,227.41</u>
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Distributed among the several subactivities as follows:

Operation.....	3,358,298.09
Silviculture.....	469,119.09
Lands.....	247,579.95
Grazing.....	235,201.62
Engineering.....	17,052.76
Research.....	14,975.90

Total.....	4,342,227.41
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## RECEIPTS FROM NATIONAL FOREST RESOURCES.

Timber sale.....	\$1,595,873.40
Timber settlement.....	17,101.51
Timber trespass.....	18,870.20
Grazing.....	1,544,713.88
Grazing trespass.....	5,080.88
Fire trespass.....	52,513.64
Occupancy trespass.....	793.11
Special use.....	107,535.85
Water power.....	103,389.48
Turpentine sale.....	7,780.52
Turpentine trespass.....	375.94

Total.....	3,457,028.41
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## BUREAU OF CHEMISTRY.

Classification of expenditures for the fiscal year ended June 30, 1917.

Project.	Salaries.			Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.			Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.					
1 Administration.....	\$40,385.51	\$16,996.70	.....	\$57,382.21	\$558.31	.....	\$899.87	
2 Investigations in agricultural chemistry.....	4,546.68	28,912.64	.....	33,459.32	3,855.83	\$374.57	153.26	
3 Collaboration with other departments.....		10,729.17	\$502.50	11,231.67	1,951.28	35.41	.....	
4 Testing export food products.....		533.00	720.00	1,253.00			115.80	
5 Poultry and egg investigations.....	4,244.35	1,200.00	25,603.98	31,048.33	5,897.40	273.01	25.78	
6 Fish investigations.....		420.00	5,440.08	5,860.08	2,628.03	.....	491.58	
7 Oyster and other shellfish investigations.....		2,428.33	346.67	2,775.00	1,484.10	88.15	74.89	
8 Biological investigations of food and drug products.....	6.25	7,739.25	1,200.00	8,945.50	56.44	25.00	5.00	
9 Citrus by-products investigations.....	2,624.00	.....	2,444.67	5,068.67	579.55	146.50	53.55	
10 Color investigations.....	1,243.83	15,640.44	.....	16,884.27	731.07	1,446.19	113.50	
11 Enforcement of the food and drugs act.....	245,880.93	233,933.19	177,742.06	657,556.18	74,516.52	2,316.19	2,106.98	
12 Investigation of naval stores and demonstration of methods of production.....		6,099.34	105.00	6,204.34	1,650.31	90.68	.....	
Total.....	298,931.55	324,632.06	214,104.96	837,668.57	93,908.84	4,795.70	3,352.94	
							14,848.75	

## PROJECT STATEMENTS.

## ADMINISTRATION.

Total expenditures as above.....	\$61,451.91
Outstanding liabilities, Aug. 31 (estimated). . . . .	429.63
Total allotment.....	<u>61,881.54</u>

General administration of the research, regulatory, and business affairs of the bureau, including the clerical work connected with the keeping of accounts, filing of correspondence, and the editorial work..... 61,881.54

## INVESTIGATIONS IN AGRICULTURAL CHEMISTRY.

Total expenditures as above.....	\$44,546.83
Outstanding liabilities, Aug. 31 (estimated). . . . .	1,581.78
Unexpended balance (estimated).....	818.07
Total allotment.....	<u>46,946.68</u>

Studies to determine the effect of environment on the composition of crops, to find new uses for waste agricultural products, to develop methods for preserving perishable farm products from seasons of oversupply to times of scarcity, to ascertain the nutritive value of feeds, and to apply the science of chemistry to the solution of problems in the production, distribution, and utilization of farm products, as follows:

Carbohydrate investigations.....	2,154.18
Cotton-plant investigations.....	2,753.03
Fruit and vegetable utilization investigations.....	9,551.95
Insecticide and fungicide investigations.....	4,839.89
Leather and paper investigations.....	12,665.35
Nitrogen tests and investigations.....	273.24
Plant chemical investigations.....	13,890.97

Total.....	46,128.61
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## COLLABORATION WITH OTHER DEPARTMENTS.

Total expenditures as above.....	\$14,026.94
Outstanding liabilities, Aug. 31 (estimated). . . . .	192.80
Unexpended balance (estimated).....	200.26

Total allotment.....	<u>14,420.00</u>
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Distributed among the several subactivities as follows:

Miscellaneous tests for other departments: This project has for its object the rendering of assistance to the Post Office Department in preventing the use of the mails for fraudulent purposes, with special reference to drugs and medicines; the testing of certain supplies furnished under Government contract; work in the preparation of specifications for certain products, including foods and drugs, for which the Bureau of Standards is not equipped; assisting the Treasury Department in classifying various products under the tariff act, and making chemical analyses for other departments upon request.....	5,784.56
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Study of cereal dusts in relation to thrasher, mill, and elevator explosions: Study of the physical and chemical properties of grain and of the cereal dust which occurs in the thrashing, storing, handling, and milling of wheat and other cereals, in order to determine the cause of explosions in thrashers, mills, and elevators, and to secure knowledge that will lead to the prevention of such explosions.....	8,435.18
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Total.....	14,219.74
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## BUREAU OF CHEMISTRY.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellane- ous supplies, services, etc.	Total.
\$819.81		\$501.75	\$75.25					\$783.78	\$61,451.91
63.35		53.91	478.38					4,447.81	44,546.83
64.11		44.84	132.59					146.54	14,026.94
								160.01	1,528.81
7.72	\$3,200.00	402.99	214.15	\$196.78				1,362.75	43,120.50
21.40	940.00	173.09	125.66	29.54				843.54	10,696.23
	58.00	6.51	241.36	21.18				149.14	4,828.44
		6.64						662.39	9,711.35
		960.00	84.25	286.90	152.66			1,193.46	8,897.64
8.73		15.63	32.31					2,984.67	25,655.07
4,048.70	13,395.33	5,989.86	4,820.02	1,720.14				50,058.43	824,186.32
		6.49	78.53					306.90	8,502.75
5,033.82	18,553.33	7,285.96	6,485.15	2,120.30				63,099.43	1,057,152.79

## TESTING EXPORT FOOD PRODUCTS.

Total expenditures as above.....	\$1,528.81
Outstanding liabilities, Aug. 31 (estimated).....	336.19
Unexpended balance (estimated).....	1,995.00
 Total allotment.....	 3,860.00

Under this project samples of food products for export are tested upon the request of exporters, in order to determine whether the goods will meet the requirements of the country to which consigned; the methods of analysis employed in foreign countries are also studied..... 1,865.00

## POULTRY AND EGG INVESTIGATIONS.

Total expenditures as above.....	\$43,120.50
Outstanding liabilities, Aug. 31 (estimated).....	2,485.50
Unexpended balance (estimated).....	38.35
 Total allotment.....	 45,644.35

Dissemination of information to shippers, carriers, and others, relative to improved methods of handling poultry and eggs; study of the breakage of eggs in transit; investigation of the preparation of frozen and dried eggs; poultry fleshing studies; and research work to discover fundamental scientific facts bearing on the preservation of the quality of poultry and eggs and the prevention of decay..... 45,606.00

## FISH INVESTIGATIONS.

Total expenditures as above.....	\$10,696.23
Outstanding liabilities, Aug. 31 (estimated).....	1,549.76
Unexpended balance (estimated).....	354.01
 Total allotment.....	 12,600.00

Investigation of the methods of transporting and handling fish; study of the cold storage of fish and the utilization of by-products of the fish industry..... 12,245.99

## OYSTER AND OTHER SHELLFISH INVESTIGATIONS.

Total expenditures as above.....	\$4,828.44
Outstanding liabilities, Aug. 31 (estimated).....	88.59
Unexpended balance (estimated).....	82.97
 Total allotment.....	 5,000.00

Investigations regarding the sanitary inspection of shellfish areas and the handling and shipping of shellfish; study of the conservation of the by-products of the oyster industry; investigation of the sanitary character of water in relation to the sanitary condition of shellfish..... 4,917.03

## BIOLOGICAL INVESTIGATIONS OF FOOD AND DRUG PRODUCTS.

Total expenditures as above.....	\$9,711.35
Outstanding liabilities, Aug. 31 (estimated).....	236.88
Unexpended balance (estimated).....	58.02
 Total allotment.....	 10,006.25

Investigation of the biological effects of food and drug products upon health; determination of the chemical composition of proteins as a basis for ascertaining their food value; study of nitrogen distribution in various cereals and other feeding stuffs; study of the utilization of hydrogenated oils..... 9,948.23

## CITRUS BY-PRODUCTS INVESTIGATIONS.

Total expenditures as above.....	\$8,897.64
Outstanding liabilities, Aug. 31 (estimated).....	548.18
Unexpended balance (estimated).....	1,258.18
 Total allotment.....	 10,704.00

Development of commercial methods for the utilization of cull citrus fruits, especially for the purpose of increasing the quantity and quality of the yield of essential oils from the peel and of juice from the fruit; study of methods for the extraction of other

by-products from citrus fruits, and investigation of methods for determining the maturity of fruits and vegetables..... \$9,445.82

## COLOR INVESTIGATIONS.

Total expenditures as above..... \$25,655.07  
Outstanding liabilities, Aug. 31 (estimated)..... 29,912.77  
Unexpended balance (estimated)..... 675.99

Total allotment..... 56,243.83

Investigations in the utilization, for coloring purposes, of raw materials grown or produced in the United States; establishment, equipment, and maintenance of a plant on the Arlington Farm for the purpose of conducting these experiments on a manufacturing scale..... 55,567.84

## ENFORCEMENT OF THE FOOD AND DRUGS ACT.

Total expenditures as above..... \$824,186.32  
Outstanding liabilities, Aug. 31 (estimated)..... 23,281.53  
Unexpended balance (estimated)..... 4,871.38

Total allotment..... 852,339.23

Enforcement of the provisions of the food and drugs act of June 30, 1906, and the necessary investigations, inspections, and analyses of food and drug products incident thereto, as follows:

General administrative work in connection with the enforcement of the act, including the preparation of evidence for presentation in cases, fees paid expert witnesses, etc.....

State cooperative food and drug control..... \$64,781.15  
Sherley amendment cases..... 13,239.88

11,610.22

Animal physiological chemical investigations..... 8,204.37

Carbohydrate tests and investigations..... 26,854.04

Citrus-fruit investigations..... 10,170.37

Color certification and investigations..... 7,162.89

Drug tests and investigations..... 21,040.52

Food control..... 47,412.33

Food investigations..... 14,448.14

Microbiological tests and investigations..... 24,191.44

Microchemical tests and investigations..... 13,962.52

Miscellaneous tests and investigations..... 18,309.39

Net-weight investigations..... 2,315.71

Nitrogen tests and investigations..... 2,853.92

Oil, fat, and wax tests and investigations..... 2,049.68

## BUREAU OF SOILS.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.				Equipment.		
	Statutory.	Lump fund.		Total.	Travel, station, and field expenses.	Apparatus, instruments, laboratory.	Furniture.
		In Wash- ington.	Out of Washington.				
1 Administration.....	\$37,021.61	\$1,100.00	.....	\$38,121.61	.....	.....	.....
2 Soil chemical investigations.....	746.67	15,460.62	.....	16,207.29	\$22.92	\$1,788.82	140.55
3 Soil physical investigations.....	2,872.24	8,639.44	\$1.00	11,512.68	46.30	2,176.48	195.71
4 Investigation of fertilizer re- sources.....	1,873.33	26,232.33	8,429.25	36,534.91	2,857.53	11,758.26	229.36
5 Soil-survey investigations.....	26,079.46	9,807.39	80,847.83	116,734.68	66,322.62	.....	274.44
6 Classification of agricultural lands.....	.....	.....	10,861.67	10,861.67	6,165.90	.....	1,063.73
Total.....	68,593.31	61,239.78	100,139.75	229,972.84	75,415.27	15,723.56	1,811.65
							1,114.32

## PROJECT STATEMENTS.

## ADMINISTRATION.

Total expenditures as above..... \$41,117.79  
Outstanding liabilities, Aug. 31 (estimated)..... 76.45  
Unexpended balance (estimated)..... 1,634.06

Total allotment..... 42,828.30

General direction and supervision of the various investigational activities of the bureau, including the offices of chief of bureau and chief clerk, and the accounts, editorial, supply, and files and records sections..... 41,194.24

## SOIL CHEMICAL INVESTIGATIONS.

Total expenditures as above..... \$19,894.45  
Outstanding liabilities, Aug. 31 (estimated)..... 124.69  
Unexpended balance (estimated)..... 187.53

Total allotment..... 20,206.67

Distributed among the several subactivities as follows:

Supervision: Planning, direction, and supervision of the routine and investigational

work in soil chemistry; conduct of correspondence and other clerical work relative thereto.....

\$1,853.04

Mineral nature of agriculturally important American soils: Determination of the predominating minerals in important soil types, with a view to establish the origin, process of formation, and relations of these types.....

534.20

Routine microscopic work: Determination of the identity of rocks and other soil-forming and fertilizer-producing materials submitted by the various divisions of this bureau and other branches of the department.....

961.87

Inorganic composition of soils: A systematic inquiry, in cooperation with the soil survey, into the chemical composition of important agricultural soils of the United States.....

6,257.12

Ash composition of important crop plants: Determination of the presence in plant ash of chemical elements (especially the rarer elements) found in the soils on which the plants are grown.....

907.91

Pharmacognosy investigations.....	\$13,285.16	Western district—	
Pharmacological investigations.....	12,443.00	San Francisco laboratory (including district headquarters).....	\$32,554.48
Physiochemical investigations.....	5,877.30	Denver laboratory.....	19,710.89
Phytochemical investigations.....	7,664.58	Honolulu laboratory.....	3,960.33
Protein investigations.....	3,245.35	Seattle laboratory.....	11,473.92
Water tests and investigations.....	14,766.78	Inspection, western district.....	24,967.57
Special investigations.....	10,677.00		
Eastern district—		Total.....	847,467.85
Washington laboratory (including district headquarters).....	48,508.29		
Boston laboratory.....	20,096.37		
Buffalo laboratory.....	7,520.88		
New York laboratory.....	80,738.43		
Philadelphia laboratory.....	10,393.27		
Porto Rico laboratory.....	4,847.40		
Savannah laboratory.....	8,663.33		
Inspection, eastern district.....	53,719.52		
Central district—			
Chicago laboratory (including district headquarters).....	68,885.79		
Cincinnati laboratory.....	12,010.11		
Minneapolis laboratory.....	8,195.25		
New Orleans laboratory.....	9,848.47		
St. Louis laboratory.....	10,345.03		
Inspection, central district.....	54,462.78		
		Investigation of the grading, weighing, and handling of naval stores; preparation of definite and permanent type samples as a basis for trading and to insure fair, uniform, and simple grading; demonstration of improved methods or processes of preparing naval stores.....	
			9,832.89

## BUREAU OF SOILS.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.
\$789.98 .....		\$265.61	\$302.95					\$662.15	\$41,117.79
2.82 .....		.36	1.58					1,730.11	19,894.45
2.37 .....		.21	1.57					842.68	14,778.00
59.18 .....		23.68	87.68	\$1,436.35			\$970.00	8,236.49	62,240.13
515.08 .....		18.82	501.40					2,215.68	187,646.45
		1.25	13.65					33.33	17,075.80
1,369.43 .....		309.93	908.83	1,436.35			1 970.00	13,720.44	342,752.62

<sup>1</sup> Structure.

Hydrolytic decomposition of soil-forming minerals: Study of the action of water and such substances as may exist in the soil solution upon the decomposition and degradation of soil minerals and the possible synthesis of new mineral species.....

Routine laboratory analyses: This project covers the chemical analysis of soils, waters, and similar materials for this bureau and other bureaus of the department..

Liming of soils: Study of the effects of liming and determination of a proper basis for the practice of liming soils.....

Total.....

## SOIL PHYSICAL INVESTIGATIONS.

Total expenditures as above.....

Outstanding liabilities, Aug. 31 (estimated).....

Unexpended balance (estimated).....

Total allotment.....

Distributed among the several subactivities as follows:

Supervision: Planning, direction, and supervision of the routine and investigational

work in soil physics; correspondence and other clerical details.....

Designing, construction, and standardization of instruments: Routine work in the repair of instruments and apparatus, and the designing and construction of special pieces of apparatus for the various divisions of the bureau.....

Physical examination of soils: Quantitative determination of the mechanical composition for an expression of the textural characteristics of soils; investigation of the physical composition of soils; and determination of the relation of the different components to the physical condition of the soil.....

Soil erosion: Investigation of the causes for and control of erosion in soils of different types and under various climatic conditions.....

Movement of the soil solution: Study of the movement and distribution of moisture in the soil and of methods for determining the critical moisture content; and devising an instrument that can be used in the field for determining the moisture content of soils.....

\$2,726.36

2,676.82

6,136.35

388.16

1,036.86

Absorption by soils: Study of the absorption by soils of water vapor, gases, and various soluble salts and of their effect on the physical condition of the soil.....	\$949.20	to increase the efficiency of the known methods and to devise new ones.....	\$4,210.52
Soil temperatures: Investigation of heat conductance of soils and of the relation of temperature and solar radiation to soil conditions.....	576.08	Concentration of low-grade phosphates: Determination of economical mechanical and chemical methods of separating phosphoric acid from impurities with which it is associated in the waste material resulting from mining operations.....	1,824.53
Soil aeration: Study of the composition of the soil atmosphere and its movements as influenced by barometric pressure, temperature, texture, and tillage.....	272.19	Production of concentrated fertilizer products: Investigation of the possibility of producing combinations of nitrogen, phosphorus, and potash, or combinations of any two of these elements, by methods which may make it possible to use such compounds for fertilizer purposes.....	969.70
Soil stresses and strains: Study of stresses induced in soils by changes in moisture content of soils and the effect of soil composition on the magnitude of these stresses	267.80	Production of raw materials in the United States for fertilizer purposes: The purpose of this project is to obtain accurate and authentic data, by correspondence with producers and by occasional visits to mines and factories, regarding available or partially available fertilizer resources.....	1,401.83
Total.....	15,029.82	Analyses of samples: Examination of samples of materials which give promise of value for fertilizer use.....	1,291.47
INVESTIGATION OF FERTILIZER RESOURCES.			
Total expenditures as above.....	\$62,240.13	Total.....	62,335.20
Outstanding liabilities, Aug. 31 (estimated).....	95.07		
Unexpended balance (estimated).....	150,888.13		
Total allotment.....	213,223.33		
Distributed among the several subactivities as follows:			
Supervision: Planning, direction, and supervision of the investigation of fertilizer resources of the United States.....	5,642.60	Total expenditures as above.....	\$187,646.45
Extraction of potash salts from kelps: Investigation and demonstration on a semicommercial scale of the practicability and economic value of various methods used for the extraction of potash salts from the giant kelps on the Pacific coast, including the erection of an experimental plant.....	24,984.81	Outstanding liabilities, Aug. 31 (estimated).....	381.22
Effect of harvesting and other factors on the growth of kelp: Determination of the effect of different methods of harvesting on the growth of kelp; study of the influence of fresh water and of the effect of storms on the kelp beds.....	430.70	Unexpended balance (estimated).....	6,251.79
Production of potash from feldspar and other mineral sources: Determination of commercially possible methods for utilizing feldspar, alunite, natural brines, etc., as sources of potash for fertilizer production.....	4,438.60	Total allotment.....	194,279.46
Fertilizer value of city and trade wastes: Determination of the amount and value of city and trade wastes as sources of commercial fertilizer material.....	1,997.77		
Fixation of atmospheric nitrogen: Investigation of new processes of fixing nitrogen by reduction methods.....	5,543.32	Distributed among the several subactivities as follows:	
Extraction of phosphoric acid from natural phosphates: Investigation of the sulphuric-acid and electrical methods used for the extraction of phosphoric acid from natural phosphates and devising improvements in these processes.....	5,588.61	Supervision: General direction and supervision of the soil-survey investigations, including office correspondence, compilation of field reports, assignments of the field force, and all other matters relating to the administration of the work.....	14,808.48
Fertilizer value of nitrogenous materials: Determination of the actual fertilizer value, by chemical and other methods, of various nitrogenous materials.....	2,098.26	Soil surveys: These activities comprise the surveying, mapping, and classifying of the soils of important areas in different parts of the country; the preparation of reports containing descriptive matter relating to the soils, their character, origin, and value for crops, and to the agricultural conditions found in each area surveyed; the preparation of maps showing the distribution of the soils; and the dissemination of information relating to the use of soils. The purpose is to acquire a knowledge of the soils of the United States and make it available for use by other bureaus and departments, agricultural colleges, experiment stations, and others engaged in the development of agriculture. The following areas were surveyed in whole or in part during the fiscal year 1917, aggregating 46,407 square miles: Alabama: Fayette County, \$996.68; Lowndes County, <sup>1</sup> \$1,022.76; Marengo County, \$1,559.55; Morgan County, \$1,030.72; Monroe County, <sup>1</sup> \$1,131.79; St. Clair County, \$2,045.08; Shelby County, \$2,313.78.....	
Phosphate industry of the United States: Investigation of the sources, quantity, and production of phosphate rock, its manipulation for the fertilizer industry, the relative merits of the products obtained by the several manipulations, and other factors necessary to determine the cost to the farmer and to inform him concerning changing conditions.....	1,912.48	Arizona: Gila River Valley area <sup>2</sup> .....	10,100.36
Fixation of nitrogen by catalytic processes: Investigation of methods of fixing nitrogen by the aid of catalytic reagents, with a view		Arkansas: Faulkner County, <sup>1</sup> \$2,407.38; Drew County, \$3,245.98; Howard County, \$2,050.40.....	1,431.73
		California: Anaheim area, <sup>1</sup> \$64.10; central-southern reconnaissance area, <sup>1</sup> \$1,378.58; Los Angeles area, <sup>1</sup> \$294.10; reconnaissance of San Joaquin Valley, <sup>1</sup> \$2,621.72; Santa Maria Valley, <sup>1</sup> \$1,085.62; Ventura area, <sup>2</sup> \$3,251.31.....	7,703.76
		Delaware: Kent County <sup>2</sup> .....	8,695.43
			193.36

<sup>1</sup> Surveyed in part during fiscal year 1916.<sup>2</sup> To be completed during fiscal year 1918.

Florida: St. John County	6, 507. 46	Outagamie County, <sup>2</sup> \$407.92; Portage County, <sup>1</sup> \$85; Rock County, <sup>2</sup> \$1,163.11; southern part of north-central reconnaissance area, <sup>1</sup> \$4; Waupaca County, <sup>2</sup> \$1,931.19	5, 486. 37
Georgia: Burke County, \$3,413.71; Jasper County, <sup>1</sup> \$556.86; Lowndes County, \$1,078.50; Madison County, \$490.58; Mitchell County, \$1,810.43	7, 350. 08	Wyoming: Fort Laramie area, <sup>2</sup> \$490.02; Shoshone reclamation project, \$135.88; Wind River reclamation project, <sup>2</sup> \$298.60	924. 50
Idaho: Nez Perce County <sup>2</sup>	427. 79	Inspection, correlation, and supervision of field work: Inspection of soil-survey field work to secure uniformity in methods and results; examination and review of field reports; preparation of memoranda for soil correlation and keeping of records pertaining thereto; and correlating the soils of the various areas surveyed, so as to insure uniformity in the classification of the soils of the United States	13, 926. 86
Indiana: Adams County, <sup>2</sup> \$235.29; Benton County, <sup>2</sup> \$1,254.22; Lake County, <sup>2</sup> \$325.68; Porter County, <sup>1</sup> \$1,129.61	2, 944. 80	Map drafting: Preparation of suitable base maps for the use of soil-survey field parties; securing data regarding official boundaries, railroad alignments, and other miscellaneous information required by field parties; adjusting, drawing, and coloring soil maps to be used as a copy for lithographic reproduction; measuring the areas of different soil types, etc.	15, 341. 13
Kentucky: Logan County, <sup>2</sup> \$390.13; Shelby County, <sup>1</sup> \$2,004.59	4, 627. 10	Photographic reproduction of base maps: The photographic enlargement or reproduction of base maps to a scale suitable for use of soil-survey field parties	1, 200. 00
Louisiana: La Salle Parish, \$2,621.22; St. Martins Parish, \$1,363.23	2, 394. 72	Special soil studies: Investigations of the distribution, relationship, and characteristics of the important soil series and soil types of the country, and studies of the adaptability of soils to certain crops	3, 640. 31
Maine: Aroostook County <sup>2</sup>	3, 984. 45	Advisory service: Identification of miscellaneous soil samples and giving advice, through correspondence or otherwise, regarding the use of soils	2, 409. 71
Maryland: Baltimore County, <sup>2</sup> \$288.28; Howard County, \$800.13; Washington County, <sup>2</sup> \$271.81	1, 188. 72	Miscellaneous supplies: Purchase of field equipment, consisting of plane tables, compasses, augers, alidades, etc., and repairs to same, drafting and photographic supplies, and other materials required for field and office work	4, 236. 21
Mississippi: Amite County, \$2,969.64; Covington County, \$1,290.28; Madison County, \$2,902.43; Newton County, <sup>1</sup> \$1,239.60; Pearl River County, <sup>2</sup> \$82.39	1, 360. 22	Total	188, 027. 67
Missouri: Barry County, <sup>1</sup> \$1,232.28; Callaway County, <sup>1</sup> \$1,278.23; Knox County, <sup>2</sup> \$369.90; Lincoln County, <sup>2</sup> \$419.11; Texas County, <sup>2</sup> \$1,314.43	1, 317. 06	CLASSIFICATION OF AGRICULTURAL LANDS.	
Nebraska: Box Butte County, <sup>1</sup> \$474; Chase County, <sup>2</sup> \$241.67; Dodge County, <sup>1</sup> \$488.76; Fillmore County, <sup>1</sup> \$316.50; Hall County, <sup>1</sup> \$780.40; Kimball County, \$1,638.28; Morrill County, <sup>2</sup> \$638.35; Wayne County, <sup>2</sup> \$395.61	1, 903. 34	Total expenditures as above	\$17, 075. 80
New Jersey: Belvidere area, <sup>2</sup> \$1,579.76; Millville area, <sup>2</sup> \$1,203.97	8, 484. 34	Unexpended balance (estimated)	1, 024. 20
New York: Oswego County, <sup>2</sup> \$282.03; Saratoga County, <sup>2</sup> \$165.82; Schoharie County, <sup>1</sup> \$241.60; Yates County, \$998.67	4, 613. 95	Total allotment	18, 100. 00
North Carolina: Beaufort County, <sup>2</sup> \$2,472.64; Bertie County, \$1,094.56; Cleveland County, <sup>1</sup> \$1,073.80; Halifax County, <sup>1</sup> \$1,373.20; Orange County, <sup>2</sup> \$545.76; Stanley County, <sup>1</sup> \$1,140.25; Wilkes County, <sup>2</sup> \$126.15	4, 973. 57	This work consists of assisting the Forest Service in the classification and segregation of agricultural lands in the several forest reserves with a view to determine their value for agricultural purposes, so as to enable the Forest Service to indicate what lands may be opened for settlement	
North Dakota: Sargent County <sup>2</sup>	2, 783. 73	Forest reserves in—	
Ohio: Marion County, <sup>1</sup> \$1,229.15; Mahoning County, <sup>2</sup> \$1,064.10; Sandusky County, <sup>1</sup> \$927.78; Wayne County, <sup>2</sup> \$203.48	1, 688. 12	Alaska	1, 709. 10
Oklahoma: Canadian County, <sup>2</sup> \$407.27; Payne County, <sup>1</sup> \$2,081.14	7, 826. 36	Arizona	1, 151. 04
Oregon: Yamhill County <sup>2</sup>	617. 80	California	2, 656. 80
Pennsylvania: Clearfield County, <sup>1</sup> \$2,886.27; Lycoming County, <sup>2</sup> \$234.50; Mercer County, <sup>2</sup> \$358.31	3, 424. 51	Colorado	958. 78
South Carolina: Marlboro County, \$2,808.35; Newberry County, \$2,393.06	2, 488. 41	Georgia	1, 245. 83
Tennessee: Maury County <sup>2</sup>	254. 46	Idaho	1, 612. 94
Texas: Bell County, <sup>1</sup> \$164.83; Bowie County, \$2,426.90; Denton County, \$1,407.74; Eastland County, <sup>1</sup> \$42.91; Experiment Station Farm No. 13, \$101.33; Lubbock County, \$2,414.86; Reeves County, \$2,075.83	3, 479. 08	Montana	1, 952. 26
Vermont: Windsor County <sup>1</sup>	5, 201. 41	New Mexico	509. 93
Virginia: Accomac County, <sup>2</sup> \$2,467.24; Pittsylvania County, <sup>2</sup> \$1,651.17	2, 031. 29	Oregon	768. 77
Washington: Benton County, <sup>1</sup> \$1,743.55; Spokane County, <sup>2</sup> \$96.64	8, 634. 40	South Dakota	350. 36
West Virginia: Braxton, Clay, Barbour, and Upshur Counties, <sup>2</sup> \$169.73; Jefferson, Morgan, and Berkeley Counties, <sup>1</sup> \$799.53	494. 43	Texas	520. 83
Wisconsin: Door County, <sup>1</sup> \$998.59; Jackson County, <sup>2</sup> \$376; Milwaukee County, <sup>1</sup> \$520.56;	4, 118. 41	Utah	2, 550. 01
	1, 840. 19	Washington	609. 15
	969. 26	Wyoming	480. 00
		Total	17, 075. 80

<sup>1</sup> Surveyed in part during fiscal year 1916.

<sup>2</sup> To be completed during fiscal year 1918.

## BUREAU OF ENTOMOLOGY.

Classification of expenditures for the fiscal year ended June 30, 1917.

Project.	Salaries.				Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.		Total.		Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.						
1 Administration.....	\$35,218.94	\$1,109.33	\$23,154.81	\$36,328.27	\$264.13	\$720.61	\$89.80		
2 Deciduous-fruit insect investigations.....	3,417.50	20,356.09	46,928.40	4,943.33	\$840.70	995.71	425.33		
3 Cereal and forage insect investigations.....	7,041.12	7,961.97	73,759.56	88,762.65	13,439.83	2,204.04	1,148.93	813.44	
4 Southern field-crop insect investigations.....	7,704.45	6,880.63	33,375.15	47,960.23	10,848.29	552.65	1,053.60	1,350.67	
5 Forest and shade-tree insect investigations.....	7,536.67	18,639.18	22,082.83	48,858.68	4,594.97	151.58	403.32	70.50	
6 Truck-crop and stored-product insect investigations.....	4,216.66	13,103.32	20,623.92	37,943.90	3,084.18	344.28	701.48	325.10	
7 Bee-culture investigations.....	1,284.78	11,968.53	2,965.08	16,218.39	1,661.35	115.00	765.75	152.23	
8 Tropical and subtropical fruit insect investigations.....	3,765.67	5,092.79	6,980.00	15,838.46	999.45	413.40	226.41	30.82	
9 Investigation and control of the Mediterranean and other fruit flies.....	.....	4,400.83	4,150.00	8,550.83	3,885.82	226.42	131.00	1.60	
10 Miscellaneous insect investigations.....	7,396.45	28,475.66	15,951.36	51,823.47	5,964.20	424.92	838.11	310.79	
11 Investigation and control of gipsy moth and brown-tail moth.....	16,001.83	724.99	60,976.03	77,702.85	160,975.80	759.98	901.85	22,026.17	
Total.....	93,584.07	118,713.32	264,618.74	476,916.13	210,661.35	6,032.97	7,886.77	25,596.45	

## PROJECT STATEMENTS.

## ADMINISTRATION.

Total expenditures as above.....	\$38,174.32
Outstanding liabilities, Aug. 31 (estimated).....	20.71
Unexpended balance (estimated).....	23.91
Total allotment.....	<u>38,218.94</u>

General administration, supervision, and direction of the investigations and business activities of the bureau, under the personal supervision of the chief of bureau.....	38,195.03
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## DECIDUOUS-FRUIT INSECT INVESTIGATIONS.

Total expenditures as above.....	\$62,040.24
Outstanding liabilities, Aug. 31 (estimated).....	944.44
Unexpended balance (estimated).....	1,212.82
Total allotment.....	<u>64,197.50</u>

Distributed among the several subactivities as follows:

Supervision: Planning and direction of the activities relating to deciduous-fruit insect investigations, including supervision of scientific work, general office routine, correspondence, etc.....

Apple insects: Studies of the life histories and habits of and remedies for the apple-tree borer, aphids, and other insects injurious to the apple, and development of methods for their control; also study of variations necessary in the spraying schedule to control the codling moth.....

Peach insects: Work on the biology of insects injurious to the peach, including thrips, peach-tree borer, Oriental peach moth, etc., and determination of methods of control.....

Grape insects: Investigations of the life history and habits of the grape berry moth, grape mealy bug, and other important grape insects in the United States, and development and application of remedies.....

Nut insects: General inquiry into the insect enemies of the pecan, chestnut, and other native cultivated nuts, and determination of appropriate remedies.....

\$6,173.96

Orchard insecticides and spraying machinery: Testing of proprietary insecticides and development of new insecticides; determination of the comparative merits of various types of spraying machinery in general use and of accessories used in spraying.....

7,420.57

Cranberry and small-fruit insects: Investigation of the important insects affecting the cranberry and other small fruits, and determination of appropriate remedial measures for same; study of methods of insect control now in vogue, with a view to develop improvements where possible.....

2,406.23

Deciduous-fruit insect control by natural agencies: Determination of the importance of hymenopterous parasites and predatory insects in the control of various species of insect injurious to deciduous-fruit orchards, vineyards, etc., and development of methods for their practical propagation and dissemination .....

6,903.59

Orchard-insect survey: Collection of data regarding a large number of insect pests of orchards, vineyards, etc., not normally of first-class importance as pests but which in the aggregate do a large amount of injury and may become seriously destructive at any time, so as to be prepared to promptly suggest remedies in case of serious insect outbreaks and minimize the loss from such causes.....

2,344.28

Deciduous-fruit nursery insect investigations: Investigations of the various insects affecting nursery stock and development of remedies which may be effectively applied under nursery conditions; investigation of the efficiency of fumigation methods now employed by nurserymen; effecting improvements in methods of disinfecting nursery stock.....

1,518.94

17,300.34

3,246.19

7,488.24

Total.....

62,984.68

## BUREAU OF ENTOMOLOGY.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellane- ous supplies, services, etc.	Total.	
\$244.25 135.33	.....	\$0.65 304.46	\$34.08 743.11	\$147.78	.....	\$25.25	.....	\$492.53 4,391.75	\$38,174.32 62,040.24	1 2
560.93	4,389.31	724.49	857.00	402.43	.....	332.26	.....	4,947.50	118,582.81	3
273.48	1,581.82	312.40	561.89	301.82	.....	.....	.....	6,897.51	71,694.36	4
154.31	968.64	189.76	246.84	76.78	.....	71.55	.....	2,005.93	57,792.86	5
119.34	531.17	134.62	395.73	59.88	.....	.....	.....	2,854.26	46,493.94	6
951.89 43.89	656.49 515.00	51.25 85.00	50.25 104.56	65.06 51.50	.....	212.60	.....	287.66 1,188.08	21,187.92 19,496.57	7 8
.....	460.00	102.28	11.11	34.45	.....	.....	.....	1,058.58	14,462.09	9
259.04	1,068.11	162.61	277.85	86.97	.....	.....	.....	3,528.09	64,744.16	10
204.14	2,989.02	1,288.96	807.84	504.68	.....	745.50	\$77.30	35,301.52	304,285.61	11
2,946.60	15,318.65	3,356.48	4,090.26	1,731.35	.....	1,387.16	1 77.30	62,953.41	818,954.88	

<sup>1</sup> Advertising.

## CEREAL AND FORAGE INSECT INVESTIGATIONS.

Total expenditures as above.....	\$118,582.81
Outstanding liabilities, Aug. 31 (estimated) .....	654.46
Unexpended balance (estimated).....	2,463.85
Total allotment.....	<u>121,701.12</u>

Distributed among the several subactivities as follows:

Supervision: General supervision of all the cereal and forage insect investigations, preparation of results for publication, and usual office routine.....

4,272.83

Cereal insects: Investigations of insects attacking cultivated grains, including the white grub, corn-ear worm, cutworms, western army cutworm, jointworm, wireworm, chinch bug, Hessian fly, corn rootworms, and miscellaneous insects affecting rye, barley, and other small grains; and experiments in the utilization of natural enemies of such insects, besides remedial and preventive measures through mechanical means.....

65,921.60

Forage insects: Studies of insects attacking plants used as forage, including the alfalfa weevil, alfalfa seed chalcis, insects affecting the production of clover seed, and insects attacking soy bean, cowpea, vetch, and other plants and grasses used for forage; and investigation of methods of combating these insects through the employment of their natural enemies and the utilization of mechanical, remedial, and preventive measures.....

49,042.84

Total.....

119,237.27

Distributed among the several subactivities as follows:

Supervision: General supervision of southern field-crop insect investigations and conduct of usual office routine.....

\$9,463.80

Cotton insects: Investigation of the cotton boll weevil, including life-history studies, experiments in methods of cultivation, determination of the efficiency of hand picking of squares, experiments with insecticides, value of parasitic enemies as a control measure, and collection of data as to the status and dispersion of the weevil; study of the habits and extent of damage caused by cotton root aphids, cutworms, red spider, cotton bugs, and other insects, and development of methods of control; determination of the injury caused by thrips and other insects affecting cotton in the Imperial Valley, Cal., and of appropriate remedies; study of the relation of insects to the shedding of the cotton fruit, with a view to reduce loss from this cause.

33,958.88

Tobacco insects: Study of insects attacking tobacco, including hornworms, budworms, wireworms, and the large tobacco beetle; determination of methods of control, by spraying and otherwise, and demonstration to planters of such methods; determination of feasible means to prevent losses in warehouses and factories due to the cigarette beetle; investigation of insects which transmit the mosaic disease.....

21,663.96

Rice insects: Life-history studies of the insect species responsible for injury to this crop, and determination and demonstration of control measures.....

319.99

Sugar-cane insects: Investigation of the moth borer, mealy bug, beetles, leafhoppers, and other insect enemies of sugar cane, with a view to discover means of suppressing them.

5,314.87

Argentine ant: The object of this project is to reduce losses in cane plantations and orchards and prevent annoyance in warehouses, residences, and elsewhere caused by this insect.....

1,369.60

## SOUTHERN FIELD-CROP INSECT INVESTIGATIONS.

Total expenditures as above.....	\$71,694.36
Outstanding liabilities, Aug. 31 (estimated) .....	396.74
Unexpended balance (estimated).....	13.35

Total allotment.....

72,104.45

Total.....

72,091.10

## FOREST AND SHADE-TREE INSECT INVESTIGATIONS.

Total expenditures as above.....	\$57,792.86
Outstanding liabilities, Aug. 31 (estimated).....	224.15
Unexpended balance (estimated).....	289.66
 Total allotment.....	 58,306.67

Distributed among the several subactivities as follows:

Supervision: General supervision of forest-insect investigations and performance of laboratory experiments and office routine pertaining to the work as a whole.....

9,494.21

Field investigations: Determination of the character, extent, cause, and methods of prevention and control of insect damage to forest reproduction, including seeds, seedlings, and saplings; the wood of dead, dying, and felled timber; crude, finished, seasoned, and utilized forest products, including poles, posts, mine props, railroad ties, etc.; hickory and ash forest and shade trees; and shade trees and hardy shrubs in general. Investigations of the relation of climatic conditions to forest-tree insects, including latitude, altitude, longitude, lightning, storms, etc., and of the interrelation of insects and forest fires in the destruction of forests. Systematic and economic investigations of the scolytoid bark and timber beetles of North America, flat-headed borers, and beneficial insects, and investigations of general methods of combating forest, forest-product, and shade-tree insects. Instructions and demonstrations in the national forests and national parks relating to practical methods of preventing and controlling extensive insect depredations.....

37,234.62

Laboratory investigations: Identification and classification of species; preparation of original description of species and the various stages in their life history; revising and bringing up to date the systematic knowledge of all North American species; determination of seasonal histories, food and breeding habits, geographical distribution, and such other information of a technical nature about the species as is essential to the best success in the investigation and practical treatment of economic problems relating particularly to forest and other scolytoid beetles, hymenopterous, coleopterous, dipterous, lepidopterous, and isopterous insects, and buprestid, cerambycid, and other coleopterous larvae, and coniferous bark lice (Chermesinae).....

11,288.18

Total.....

58,017.01

## TRUCK-CROP AND STORED-PRODUCT INSECT INVESTIGATIONS.

Total expenditures as above.....	\$46,493.94
Outstanding liabilities, Aug. 31 (estimated).....	345.14
Unexpended balance (estimated).....	1,133.58

Total allotment.....

47,972.66

Distributed among the several subactivities as follows:

Supervision: General supervision of vegetable, truck-crop, and stored-product insect investigations and performance of administrative and routine duties common to the entire work.....

8,139.45

Vegetable and truck-crop insects: Determination by the usual field, experimental, and research methods of the causes, extent, and character of insect injury to vegetable and truck crops with a view to develop effective preventive and control measures; includes investigations of insects affecting the potato, sweet potato, cabbage and other cole crops, beans, peas, and other leguminous food crops, tomato, melons, onions, cucumber and other cucurbits, with especial attention to the Colorado potato beetle, potato-tuber moth, potato aphid, potato-stalk weevil, potato flea beetles, onion thrips, bean ladybird, bean aphid, pea aphid, cabbage worms and lopers, root maggots, cabbage and spinach plant lice, melon aphid, cutworms, wireworms, grasshoppers, blister beetles, and insects injurious to greenhouse vegetables and certain miscellaneous crops; determination of the life history of sugar-beet infesting insects, such as leafhoppers, root aphids, sugar-beet wireworms, false chinch bug, leaf beetles, white grubs, and other pests; studies of the agency of insects in the transmission of cucumber and melon wilt and mosaic, potato blight and wilt, "calico" of tomatoes, white smut of spinach, curly-top of sugar beets, anthracnose of beans, asparagus rust, and similar diseases.....

\$34,409.06

Stored-product insects: Studies of both common and newly introduced insects injuriously affecting stored wheat, corn, oats, and other grains and flour, meal, and other mill products, including all cereal food-stuffs in flour mills, elevators, and warehouses, involving special investigation of railway and steamboat lines as carriers of infestation; study of the insect enemies of dried fruits and nuts, beans, peas, and cowpeas, and cured meats, hides, furs, and manufactured fabrics; and investigation and demonstration of appropriate measures for the control of such insects, including tests of promising and standard fumigants and other insecticides against these species, and of kiln-drying and heat methods against grain pests, especially grain weevils and of those attacking edible legumes.

4,290.57

Total.....

46,839.08

## BEE-CULTURE INVESTIGATIONS.

Total expenditures as above.....	\$21,187.92
Outstanding liabilities, Aug. 31 (estimated).....	40.77
Unexpended balance (estimated).....	56.09

Total allotment.....

21,284.78

Distributed among the several subactivities as follows:

Determination of various methods by which bees respond to changes in external temperature, and best methods of caring for bees during winter; study of the development of the bee in the larval stage; determination of the effect on bees of spraying fruit trees for codling-moth control; study of the various diseases which affect brood and adult bees; demonstrations and instructions in beekeeping in the Southern States through and in cooperation with county agricultural agents.....

21,228.69

*Phylloxeridae*

## TROPICAL AND SUBTROPICAL FRUIT INSECT INVESTIGATIONS.

Total expenditures as above.....	\$19,496.57
Outstanding liabilities, Aug. 31 (estimated).....	530.29
Unexpended balance (estimated).....	838.81

Total allotment.....	20,865.67
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Determination of the practicability of control measures for white fly; perfecting the most economical method of gassing citrus groves and citrus nursery stock to combat scale insects; and investigation of other citrus fruit insects, including the Argentine ant; investigation of various means of controlling injurious citrus insects; study of the fluted scale in Louisiana, and minor investigations of special forms of insect damage to tropical and subtropical fruits..... 20,026.86

## INVESTIGATION AND CONTROL OF THE MEDITERRANEAN AND OTHER FRUIT FLIES.

Total expenditures as above.....	\$14,462.09
Outstanding liabilities, Aug. 31 (estimated).....	250.05
Unexpended balance (estimated).....	17,491.86

Total allotment.....	32,204.00
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Study of the life history of the Mediterranean and other fruit flies in relation to their hosts, looking to means of control, and co-operation in the introduction and study of parasites from foreign countries; inspection and certification of pineapples and bananas for export from Hawaii to the mainland of the United States under quarantine, and general enforcement of this quarantine; investigations of fruits likely to be imported into the United States from Mediterranean or other countries, as a basis for any necessary quarantine action; inspection and regulation of the entry of fruit imported into the United States from Mediterranean and other countries in which the fruit flies are known to occur..... 14,712.14

## MISCELLANEOUS INSECT INVESTIGATIONS.

Total expenditures as above.....	\$64,744.16
Outstanding liabilities, Aug. 31 (estimated).....	488.87
Unexpended balance (estimated).....	143.42

Total allotment.....	65,376.45
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Distributed among the several subactivities as follows:  
Supervision: General direction of investigations, including administrative and routine clerical work..... 697.50  
Identification and classification of insects: This covers the miscellaneous investigational work not specifically provided for in other projects of the bureau..... 30,416.10  
Insects affecting the health of man: Investigation and eradication of the house fly, malaria-carrying mosquitoes, stable fly, Rocky Mountain spotted-fever tick, and other insects affecting the health of man; investigation and control of insects found in packing houses and associated with meat products and which may therefore transmit disease..... 20,110.06

Insects affecting the health of animals: Investigation of the various species of ticks which transmit disease or are important parasites of domestic animals, and of screw worm, ox warble, horsefly, horn fly, etc.... \$14,009.37

Total.....	65,233.03
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## INVESTIGATION AND CONTROL OF GIPSY MOTH AND BROWN-TAIL MOTH.

Total expenditures as above.....	\$304,285.61
Outstanding liabilities, Aug. 31 (estimated).....	9,817.07
Unexpended balance (estimated).....	6,949.15

Total allotment.....	321,051.83
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Distributed among the several subactivities as follows:  
Supervision: General direction of work in prevention of the spread of gipsy and brown-tail moth, preparation of the results for publication, and routine clerical work..... 21,450.80  
Scouting and extermination: Determination of the area infested by the gipsy moth and the brown-tail moth, for the purpose of preventing the spread of these insects and applying exterminative measures in the territory where the best results can be secured..... 173,456.98  
Relation of silviculture to gipsy-moth control: Determination of the relation of silvicultural conditions to gipsy-moth infestation, and demonstration of the best methods of handling forest growth so as to render it unfavorable to gipsy-moth attack; determination of the most profitable utilization of the products cut..... 4,964.25

Laboratory and field investigations: Studies of the habits and life histories of imported parasites and natural enemies of the gipsy and brown-tail moths; determination of the extent to which these parasites are increasing under field conditions and their values as enemies of the insects concerned; collection and colonization of beneficial species in areas where they do not now exist in the infested territory; determination of the natural increase of the gipsy moth under field conditions; study of the feeding habits of the gipsy-moth larvae in all stages and of the food plants upon which this species can not develop; investigation of the relation and effect on the increase of the gipsy moth of the disease known as "wilt," and of the effect of secondary insects on trees that have been defoliated by the gipsy moth; study of the means by which the gipsy moth spreads to new territory; and tests of new insecticides and methods of spraying or banding trees in order to enable control work to be carried on more efficiently and economically..... 65,778.47

Quarantine and inspection: Inspection of plants and forest and quarry products in order to prevent the dissemination of the gipsy moth and the brown-tail moth from infested areas; enforcement of regulations prescribed by Federal Horticultural Board..... 48,452.18

Total.....	314,102.68
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## BUREAU OF BIOLOGICAL SURVEY.

Classification of expenditures for the fiscal year ended June 30, 1917.

Project.	Statutory.	Salaries.			Travel, station, and field expenses.	Equipment.			
		Lump fund.		Total.		Apparatus, instruments, laboratory,	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.						
1 Administration.....	\$25,546.12	\$8,390.87	-----	\$34,436.99	\$117.60	-----	\$575.54	\$646.19	
2 Game preservation.....	5,312.50	4,989.57	\$17,655.83	27,957.90	9,704.13	-----	101.14	1,314.57	
3 Economic investigations.....	4,318.67	24,085.69	38,119.83	66,524.19	301,518.90	\$73.60	899.10	2,753.33	
4 Biological investigations.....	4,475.61	16,789.25	1,882.25	23,147.11	4,029.39	-----	97.58	169.57	
5 Enforcement of the migratory- bird law.....	2,279.17	7,438.35	26,045.87	35,763.39	13,884.24	-----	186.15	89.08	
Total.....	41,932.07	62,193.73	83,703.78	187,829.58	329,254.26	73.60	1,859.51	4,972.74	

## PROJECT STATEMENTS.

## ADMINISTRATION.

Total expenditures as above.....	\$36,810.64
Outstanding liabilities, Aug. 31 (estimated). . . . .	240.61
Unexpended balance (estimated).....	942.08
Total allotment.....	<u>37,993.33</u>

Administration of the investigational work of the bureau and conduct of its business and routine laboratory operations.....	37,051.25
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## GAME PRESERVATION.

Total expenditures as above.....	\$44,969.77
Outstanding liabilities, Aug. 31 (estimated). . . . .	2,655.23
Unexpended balance (estimated).....	<u>14,647.71</u>
Total allotment.....	<u>52,272.71</u>

Distributed among the several subactivities  
as follows:

## Enforcement of the Lacey Act.

Supervision: General direction of the activi- ties under this group, including necessary clerical and other routine work.....	4,832.39
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Interstate commerce in game: Enforcement of sections 242 and 243 of the Criminal Code of the United States, regulating the interstate shipment of game; involves the collection of evidence of violations of the Federal game laws and its transmission to the Department of Justice and to State officials through the Solicitor's office and the giving of expert testimony when necessary.....	8,576.84
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Importation of foreign mammals and birds: The prevention, by inspection service, of the introduction from foreign countries of injurious birds and mammals.....	1,240.00
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Publications: Compilation, publication, and distribution of information concerning game, game laws, interstate commerce in game, and importation of foreign birds....	1,920.83
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Establishment and maintenance of reservations.	3,457.17
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breeding refuges for birds and game  
mammals and placed in charge of the Bu-  
reau of Biological Survey.....

\$12,666.73

Montana national bison range: Maintenance  
of reservation and care of the herds of  
buffaloes and other big animals located  
there.....

2,041.60

Wind Cave preserve: Maintenance of a  
national game preserve in Wind Cave  
National Park, S. Dak.....

1,524.79

Winter elk refuge: Maintenance of a perma-  
nent winter refuge to insure perpetuation  
of elk in Wyoming.....

6,165.63

Sullys Hill national game preserve: Im-  
provement of a game preserve in Sullys  
Hill National Park, N. Dak., by the con-  
struction of a suitable inclosure, including  
necessary corrals, sheds, and buildings, for  
the proper care and maintenance of animals  
and birds to be placed therein.....

4,140.50

Restocking reservations: Restocking national  
game preserves and other reservations with  
big game and game birds adapted thereto..

1,058.52

Total.....

47,625.00

## ECONOMIC INVESTIGATIONS.

Total expenditures as above.....	\$420,501.08
Outstanding liabilities, Aug. 31 (estimated). . . . .	3,773.28
Unexpended balance (estimated).....	<u>216,130.73</u>

Total allotment.....

440,405.09

Distributed among the several subactivi-  
ties as follows:Supervision: General direction of the activi-  
ties under this group, including necessary  
routine laboratory and office work.....

10,557.05

Relation of native and introduced mammals  
to agriculture: Investigation and demon-  
stration of methods for the control of wild  
animals destructive to cereal, fruit, and  
vegetable crops, pasture, forest growth,  
and other vegetation, live stock, and range  
lands, including moles, pocket gophers,  
prairie dogs, wolves, etc.....

101,744.77

Destruction of predatory animals in national  
forests and on the public domain: System-  
atic and economical control on Government  
reservations and the public domain of  
wolves, coyotes, and other mammals  
destructive to live stock; collection of  
information on the losses occasioned by  
such animals.....

120,773.58

<sup>1</sup> Includes \$1,296.12 from continuing appropriation for Wind Cave national game preserve (agricultural appropriation act for the fiscal year 1913) and \$1,086.09 from continuing appropriation for Sullys Hill national game preserve (fiscal years 1915, 1916, and 1917).<sup>2</sup> Includes \$4,693.01 from continuing appropriation for suppressing the spread of rabies in wild animals (urgent deficiency act approved Feb. 28, 1916).

## BUREAU OF BIOLOGICAL SURVEY—Continued.

Classification of expenditures for the fiscal year ended June 30, 1917—Continued.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.	
\$394.32	73.90	\$135.94	\$153.04	.....	.....	.....	.....	\$351.02	\$36,810.64	1
589.66	1,305.55	212.66	452.63	.....	194.92	.....	4,807.92	44,969.77	2	
244.61	2.50	629.00	3,307.32	5,415.65	.....	.....	37,484.78	420,501.08	3	
62.50	3.00	25.57	480.92	.....	.....	.....	1,846.09	30,043.34	4	
1,364.99	1,461.05	155.49	42.59	.....	.....	5,610.57	570.69	50,757.13	5	
								45,060.50	583,081.96	

Suppression of rabies in predatory wild animals: Destruction of wolves, coyotes, and other wild animals which prey upon live stock in territories in which rabies is prevalent; collection of information on the losses occasioned by such animals.....	\$151,076.22	Biological surveys of the States and Territories: Determination of the distribution, abundance, and habits of the birds and mammals of the United States and the distribution of the principal plants, in order to secure information which will be useful to the public in the conservation of the bird and mammal life and also form the basis for fixing the boundaries of the natural life zones.....	\$12,619.26
Destruction of ground squirrels in national forests and on other public lands: Development and application of practical methods for the control of ground squirrels in national forests and on other public lands, in order to prevent injury by them to range areas and invasion by them of private lands surrounded by or adjacent to Government lands.....	13,987.54	Investigations of birds and mammals of the public domain: Investigation of the wild life of the public domain, particularly in the national forests and Federal preserves, with special reference to fur bearers and species classed as game, in order to assist in the conservation of the valuable species and the destruction of the harmful ones.....	11,542.97
Relation of native and introduced birds to agriculture: Field observations and laboratory investigations of birds, with a view to determine from a knowledge of their feeding habits which species are beneficial and which injurious, and to make recommendations for the guidance of farmers, fruit growers, and foresters in their protection or control.....	16,063.53	Bird migration: Determination of the migratory movements of game and other birds and their breeding and wintering locations, to serve as a basis for the conservation of useful species and for use in the formulation of regulations under the Federal migratory-bird act.....	1,783.91
Rearing fur-bearing animals: Determination of the best methods of feeding, confining, and otherwise handling fur-bearing animals, especially foxes, minks, and martens; determination of species most suitable for domestication; development of superior types by selective breeding; investigation of the effects of temperature on fur growth; and tests of methods of dressing peltries and of caring for dressed furs.....	7,790.20	Total.....	30,647.45
Disease of wild ducks: Investigation of the great mortality among the wild ducks of Salt Lake Valley, Utah, to determine its cause and discover means of prevention...	2,281.47		
Total.....	424,274.36		
		ENFORCEMENT OF THE MIGRATORY-BIRD LAW.	
Total expenditures as above.....		\$50,757.13	
Outstanding liabilities, Aug. 31 (estimated).....		506.75	
Unexpended balance (estimated).....		1,148.62	
		Total allotment.....	52,412.50
Distributed among the several subactivities as follows:			
Supervision: General supervision, including necessary clerical and other work routine.....			9,121.16
Migratory-bird protection: Protection of migratory waterfowl, shore birds, and insectivorous birds through the establishment of a warden service and cooperation with State game associations in connection with the enforcement of the provisions of the migratory-bird law.....			39,126.45
Investigation of migratory wild fowl: Securing information concerning the distribution and abundance of migratory wild fowl in their breeding and wintering resorts, for the purpose of obtaining data on the increase or decrease of the species as a basis for the formulation of proper regulations under the migratory-bird law.....			3,016.27
Total.....			51,263.88
Distributed among the several subactivities as follows:			
Supervision: General direction of the projects under this group, including necessary clerical and other routine work.....			
Total allotment.....	4,701.31		

## DIVISION OF PUBLICATIONS.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.			Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.			Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.					
Publication work of the Department of Agriculture.....	\$172,785.81			\$172,785.81	\$538.92	\$1,354.41	\$897.66	

## PROJECT STATEMENT.

Total expenditures as above.....	\$192,289.06	Editorial work: Handling and supervising the printing of manuscripts submitted for publication, preparation of copy for blanks, etc., for the printer, revising, proofreading, compiling, abstracting, etc.....	\$19,726.48
Outstanding liabilities, Aug. 31 (estimated).....	126.88		
Unexpended balance (estimated).....	5,234.06		
 Total allotment.....	 197,650.00		
 Distributed among the several subactivities as follows:			
Administration: Direction and supervision of the publication work of the department, including expenditures from the general printing fund of \$600,000; routine correspondence and clerical work.....	22,386.97	Indexing: Preparation of indexes to publications when necessary; card indexing by subjects all publications issued by department.....	10,462.25
		Illustration work: Preparation of drawings and photographs used in illustrating publications of the department; photographic and drafting work for all branches of the	

## BUREAU OF CROP ESTIMATES.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.			Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.			Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.					
1 Administration.....	\$21,814.80	\$840.22		\$22,655.02		\$295.25	\$450.72	
2 Crop reporting and estimating.....	69,766.94	11,963.53	\$88,794.72	170,525.19	\$63,212.10	701.61	4,307.54	
3 Crop recording and abstracting.....	28,813.84	7,595.61		36,409.45		263.70	847.64	
 Total.....	 120,395.58	 20,399.36	 88,794.72	 229,589.66	 63,212.10	 1,260.56	 5,605.90	

## PROJECT STATEMENTS.

## ADMINISTRATION.

Total expenditures as above.....	\$24,082.86
Outstanding liabilities, Aug. 31 (estimated).....	250.00
Unexpended balance (estimated).....	903.14
 Total allotment.....	 25,236.00

This project covers the office of the chief, having general direction and supervision of the work of the bureau; also the office of the chief clerk, which has direct supervision of the fiscal operations, the records, files, and correspondence, the custody of property, the distribution of seeds and publications to crop correspondents, and matters relating to the personnel.....

## CROP REPORTING AND ESTIMATING.

Total expenditures as above.....	\$248,739.07
Outstanding liabilities, Aug. 31 (estimated).....	2,022.96
Unexpended balance (estimated).....	1,437.97
 Total allotment.....	 252,200.00

Distributed among the several subactivities as follows:

General crop and live-stock estimates: The issuance periodically of estimates on the acreage, condition, yield, and value of staple crops, and the number, condition, and value of the various classes of live stock in the United States, based on infor-

## STATEMENT OF EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

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## DIVISION OF PUBLICATIONS.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.
\$11,903.91		\$209.90	\$20.01				1 \$1,272.12	\$3,306.32	\$192,289.06

<sup>1</sup> Engraving, \$670.65; cleaning and toilet supplies, \$331.20; mechanics', engineers', and electricians' supplies, \$270.27.

department for official record and for lectures; preparation of lantern slides for official use, and photographs and lantern slides for furnishing to applicants at a price authorized by law; production of motion pictures of the department's activities, for educational purposes.....	\$35,887.24	ing of publications used in the department distribution; mailing of all press notices; preparation of duplicating forms and circular letters for the various bureaus; preparation of congressional correspondence relating to quotas of farmers' bulletins; mailing of all publications sent to foreign addresses, and recording of such distribution; maintenance of mailing lists, etc.....	\$103,953.00
Distribution of documents: Cooperation with the Government Printing Office in the distribution of department publications; maintenance of record of distribution of department publications; storing and mail-		Total.....	192,415.94

## BUREAU OF CROP ESTIMATES.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.
\$198.87 7,827.95 340.97	\$291.00	\$1,205.61	\$97.73				\$2.00 158.47	\$481.00 411.82 17.25	\$24,082.86 248,739.07 37,879.01
8,367.79	291.00	1,205.61	97.78				1 160.47	910.07	310,700.94

<sup>1</sup> Cleaning and toilet supplies, \$86.45; engraving, \$74.02.

mation furnished by the field agents and collected from a list of 160,000 farmers, merchants, and others acting as crop correspondents of the bureau.....	\$226,068.91
Truck-crop estimates: The issuance periodically of estimates of the acreage, condition, and yield of truck crops of the United States, based on data furnished by the truck-crop specialists and field agents and secured through correspondence with a list of about 12,000 truck growers, dealers, canners, etc.....	24,693.12
Total.....	250,762.03

## CROP RECORDING AND ABSTRACTING.

Total expenditures as above.....	\$37,879.01
Outstanding liabilities, Aug. 31 (estimated).....	100.00
Unexpended balance (estimated).....	1,020.99
Total allotment.....	39,000.00
Collection, from published and unpublished records, of statistical data relative to agriculture in the United States and foreign countries, and the analysis and conversion of such data into form suitable for study and practical use; includes maintenance of a statistical library.....	37,979.01

## STATES RELATIONS SERVICE.

Classification of expenditures for the fiscal year ended June 30, 1917.

Project.	Salaries.				Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.		Total.		Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.						
1 General administration.....	\$44,766.52	\$14,362.00	.....	\$59,128.52	\$299.22	.....	\$1,598.74	\$18.87	
2 Administration of the Hatch, Adams and Smith- <sup>1</sup> lever acts.....	17,203.46	46,302.01	.....	63,505.47	3,362.95	.....	1,036.79	14.85	
3 Farmers' cooperative demonstrations in the Northern and Western States.....	16,858.61	58,352.85	\$351,836.52	427,047.98	35,667.64	\$89.25	2,622.93	423.17	
4 Farmers' cooperative demonstrations in the Southern States.....	30,050.88	31,191.92	507,660.81	568,903.61	96,871.71	2.25	2,021.76	15.80	
5 Farmers' institutes and agricultural schools.....	4,516.37	14,412.23	296.64	19,225.24	2,492.85	.....	360.21	116.79	
6 Alaska experiment stations.....	.....	.....	33,763.42	33,763.42	2,768.48	240.00	175.20	6,068.75	
7 Hawaii experiment station.....	.....	.....	32,271.63	32,271.63	2,201.23	148.18	127.01	1,749.85	
8 Porto Rico experiment station.....	.....	.....	30,900.50	30,900.50	2,446.67	307.17	778.13	2,235.78	
9 Guam experiment station.....	.....	.....	10,647.18	10,647.18	408.53	17.19	19.71	707.73	
10 Home economics investigations.....	6,074.07	20,802.76	.....	25,876.83	429.96	184.43	866.25	39.45	
Total.....	119,469.91	185,423.77	967,376.70	1,272,270.38	146,949.24	988.47	9,606.73	11,391.04	

## PROJECT STATEMENTS.

## GENERAL ADMINISTRATION.

Total expenditures as above.....	\$63,799.91
Outstanding liabilities, Aug. 31 (estimated).....	754.34
Unexpended balance (estimated).....	242.27

Total allotment.....	64,796.52
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General direction and supervision of the work of the States Relations Service, including the office of the director, the chief clerk's office, the publication work, library, accounts, records, supplies, and property.....	64,554.25
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Total expenditures as above.....	\$68,761.17
Outstanding liabilities, Aug. 31 (estimated).....	1,040.03
Unexpended balance (estimated).....	3,152.26

Total allotment.....	72,953.46
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Supervision of the work and expenditures of the State agricultural experiment stations, under the acts of Mar. 2, 1887, and Mar. 16, 1906, and acts supplementary thereto, providing funds to State agricultural colleges for the prosecution of investigational work, and under the act of May 8, 1914, providing for cooperation in extension work between the State agricultural colleges and the Department of Agriculture; including the annual inspection of each college and station, examination of the accounts, financial reports, equipment, publications, etc., and personal conference with the college and station officials to determine the legitimacy and efficiency of their work and expenditures; preparation of annual reports to Congress on the work and expenditures of each station; advice to stations regarding personnel, lines of work, equipment, publications, etc.; collection of literature on agricultural science throughout the world and the preparation of summaries of the same in Experiment Station Record, consisting of 18 numbers of 100

pages each, annually, with detailed indexes; preparation of card indexes on publications of American stations for the use of agricultural colleges and experiment stations, State departments of agriculture, and others; and exchange of information regarding the organization and progress of agricultural research with over 1,000 experiment stations and kindred institutions in more than 50 countries..... \$69,801.20

## FARMERS' COOPERATIVE DEMONSTRATIONS IN THE NORTHERN AND WESTERN STATES.

Total expenditures as above.....	\$479,245.95
Outstanding liabilities, Aug. 31 (estimated).....	10,066.09
Unexpended balance (estimated).....	5,846.57

Total allotment.....	495,098.61
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Distributed among the several subactivities as follows:

Supervision: General supervision of farmers' cooperative demonstration work in the 33 Northern and Western States, including supplies, equipment, and miscellaneous labor..... 49,728.87

County-agent work: Instruction and demonstrations in agriculture, in cooperation with State agricultural colleges, by means of county agricultural agents, for the purpose of securing the adoption of better farm practice, organization, and administration, to the end of increasing the profits of farming and improving rural social life..... 292,688.83

Boys and girls' club work: Cooperation with State agricultural colleges in the organization of young people of the farm into clubs, with a view to interest boys and girls and, through them, farm men and women in farm, farm home, and rural community problems; to teach them better methods of farm, garden, and home practice; to bring them in touch with the work of the department and of the agricultural colleges and schools; and to encourage them in securing such an education as will aid in making them useful and successful workers, home makers, and citizens..... 83,324.68

## STATEMENT OF EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

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## STATES RELATIONS SERVICE.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellane- ous supplies, services, etc.	Total.
\$1,904.25		\$222.02	\$20.36					\$607.93	\$63,799.91
208.46		28.43	7.91					596.31	68,761.17
8,737.33		783.56	1,323.55					2,550.54	479,245.95
7,366.74	\$37.50	2,041.07	1,045.88					1,577.35	679,883.67
535.79		36.48	4.25					430.12	23,201.73
41.45	240.00	110.23	2,206.56	\$1,385.00	\$2,124.71			1,429.95	50,553.75
273.62		266.99	216.67	368.39	975.91			1,596.50	40,195.98
141.05		235.86	452.57	520.51	619.00			1,499.87	40,137.11
81.50		160.87	379.96		134.31			2,647.30	15,204.31
141.15		20.63	22.59					1,241.87	29,823.16
19,431.34	277.50	3,906.14	5,680.30	2,273.90	3,853.96			11,177.74	1,490,806.74

Farm-management demonstrations: Demonstrations to farmers, in cooperation with State agricultural colleges, of the importance of certain efficiency factors relating to the organization and administration of the farm, including instructions in methods of analyzing their own business and of working out their labor income. ....

Extension work in home economics: Cooperation with State agricultural colleges, counties, and local agencies in the organization, correlation, and conduct of extension work in home economics with farm women for the purpose of securing efficiency and promoting prosperity and contentment in the farm home. ....

\$48,064.92

Total..... 489,252.04

## FARMERS' COOPERATIVE DEMONSTRATIONS IN THE SOUTHERN STATES.

Total expenditures as above..... \$679,883.67  
Outstanding liabilities, Aug. 31 (estimated) .. 5,321.87  
Unexpended balance (estimated) .. 6,145.34

Total allotment..... 691,350.88

Distributed among the several subactivities as follows:

Supervision: General supervision of farmers' cooperative demonstration work in the 15 Southern States, including supplies, equipment, and miscellaneous labor. ....

53,462.92

County-agent and boys' club work: Instruction and demonstrations in agriculture, in cooperation with State agricultural colleges, by means of county agricultural agents, for the purpose of securing the adoption of better farm practice, organization, and administration, to the end of increasing the profits of farming and improving rural social life; teaching and demonstration of methods of meeting the ravages of the cotton boll weevil in all cotton territory; agricultural instruction to boys through the organization and work of boys' clubs. ....

516,764.25

Home demonstration work, including girls' club work: This work includes demonstrations in home gardening and poultry raising, and the organization of women's clubs for general study of household and rural community affairs and of girls' clubs for the teaching of gardening, canning, cooking, and other subjects. .... \$114,978.37

Total..... 685,205.54

## FARMERS' INSTITUTES AND AGRICULTURAL SCHOOLS.

Total expenditures as above..... \$23,203.37  
Outstanding liabilities, Aug. 31 (estimated) .. 792.71  
Unexpended balance (estimated) .. 1,121.93

Total allotment..... 25,116.37

Distributed among the several subactivities as follows:

Farmers' institutes and movable schools: Investigations and reports upon the organization and progress of farmers' institutes, movable schools, and similar organizations in the United States and foreign countries, for the purpose of obtaining special suggestions of plans and methods for making these organizations more effective for the dissemination of the results of the work of the department and the agricultural experiment stations and to improve methods of agricultural practice. ....

8,525.89

Investigations of agricultural instruction in schools: Study of agricultural instruction in this and other countries, with a view to determine the needs of such instruction, in order to make it practically useful to students who are to become farmers or workers in agricultural institutions; and furnishing schools with up-to-date and properly organized subject matter and illustrative material to supplement and reinforce textbooks and field practice. ....

15,468.55

Total..... 23,994.44

## ALASKA EXPERIMENT STATIONS.

Total expenditures as above:	
Appropriation, 1917.....	\$46,164.31
Appropriation, 1918.....	13,692.52
Receipts from sale of products.....	696.92
	\$50,553.75
Outstanding liabilities, Aug. 31 (estimated).....	3,143.17
Total allotment.....	<u>53,696.92</u>

Maintenance of a central station located at Sitka, Alaska, with subsidiary stations at Fairbanks, Rampart, and Kodiak, to investigate the agricultural and horticultural resources of Alaska and determine their possibilities, including the development of animal industry, dairying, etc., and the introduction of cattle and sheep for experimental purposes; and the establishment and maintenance of an agricultural experiment station in the Matanuska River valley to the north of Cook Inlet..... 53,696.92

## HAWAII EXPERIMENT STATION.

Total expenditures as above:	
Appropriation, 1917.....	\$40,000.00
Receipts from sale of products.....	195.98
Total allotment.....	<u>40,195.98</u>

Maintenance of a station at Honolulu, Hawaii, to investigate diversified agriculture, including a study of the proper management of soils for rice and pineapples, plant-breeding experiments, the introduction of forage crops, and a general study of the peculiar agricultural needs of this group of islands; also demonstrations to farmers and communities on the different islands composing the group in growing, handling, and marketing tropical and subtropical crops, including pineapples, bananas, cotton, rouse, corn, potatoes, onions, garden vegetables, etc., and in stock raising, dairying, etc..... \$40,195.98

## PORTO RICO EXPERIMENT STATION.

Total expenditures as above:	
Appropriation, 1917.....	\$40,000.00
Receipts from sale of products.....	137.11
Total allotment.....	<u>40,137.11</u>

Maintenance of a station at Mayaguez, P. R., to investigate problems underlying the development of agriculture and to devise means and methods of improving the art and practice, special attention being given to the development of the citrus fruit and pineapple industries, coffee improvement, methods for the control of various fungous and insect pests, the beekeeping industry, and the breeding and feeding of live stock. 40,137.11

## OFFICE OF PUBLIC ROADS AND RURAL ENGINEERING.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.			Total.	Equipment.			
	Statutory.	Lump fund.			Travel, station, and field expenses.	Apparatus, instruments, laboratory.	Miscellaneous.	
		In Washington.	Out of Washington.					
1 Administration.....	\$31,382.07			\$31,382.07	\$233.75	\$1.20	\$1,560.63	
2 Road - management investigations.....	11,874.29	\$26,841.65	\$4,392.61	43,108.55	3,732.30	70.93	122.79	
3 Road building and maintenance investigations.....	9,329.80	38,435.87	64,514.43	112,280.10	21,473.48	2,443.58	332.50	
4 Road-material investigations.....	10,177.97	26,378.02	499.33	37,055.32	1,583.58	1,996.51	263.84	
5 Field experiments.....	2,544.49	2,722.16	4,302.77	9,569.42	3,663.47	754.36	12.93	
6 Farm-irrigation investigations.....	7,633.48	19,200.25	50,679.00	77,512.73	21,899.55	737.98	199.15	
7 Farm-drainage investigations.....	10,177.97	20,920.58	35,495.63	66,594.18	26,754.84	477.24	41.55	
8 Investigations in rural engineering.....	1,696.33	16,700.80	871.44	19,268.57	856.40	397.52	6.95	
9 Improvement of post roads.....								
Total.....	84,816.40	151,199.33	160,755.21	396,770.94	80,197.37	6,879.32	2,540.34	
							9,913.31	

## PROJECT STATEMENTS.

## ADMINISTRATION

Total expenditures as above.....	\$43,230.28
Outstanding liabilities, Aug. 31 (estimated).....	593.35
Unexpended balance (estimated).....	158.44
Total allotment.....	<u>43,982.07</u>

Administration of the business affairs of the office and general direction of its investigation activities..... 43,823.63

## ROAD-MANAGEMENT INVESTIGATIONS.

Total expenditures as above.....	\$49,711.14
Outstanding liabilities, Aug. 31 (estimated).....	1,180.78
Unexpended balance (estimated).....	522.37
Total allotment.....	<u>51,414.29</u>

Distributed among the several subactivities as follows:

Supervision: Direction of the various research and extension activities under this group

<sup>1</sup> Amount expended during the fiscal year 1917 from an immediately available appropriation of \$10,000 carried in the agricultural act for the fiscal year 1918 for the establishment and maintenance of an experiment station in the Matanuska valley, in Alaska.

## GUAM EXPERIMENT STATION.

Total expenditures as above:

Appropriation, 1917.....	\$14,845.94
Receipts from sale of products.....	358.37
	<hr/>
	15,204.31
Outstanding liabilities, Aug. 31 (estimated).....	154.06
	<hr/>
Total allotment.....	15,358.37

Maintenance of a station at Agana, Guam, to conduct investigations and carry on experiments to determine the agricultural possibilities and improve the farm practices of the island, through the introduction of improved varieties of forage, fruit, and vegetable crops, the introduction of pure-bred horses, cattle, goats, swine, and poultry, and the use of modern implements.....

15,358.37

Distributed among the several subactivities as follows:

Respiration calorimeter investigations: Studies by special calorimetric methods of agricultural products with reference to their use in the home for food, clothing, and equipment, and the household tasks which their use involves, for the purpose of suggesting plans and methods for the more effective utilization of such products for these purposes; including experiments in the incubation of eggs, ripening of fruits and vegetables, and studies of labor expenditure and efficiency in household activities.....

\$7,295.26

Studies of food, dietetics, clothing, and household equipment, work, and management: Studies of the nature of agricultural products used in the home for food, clothing, and equipment; studies of household processes, methods, and uses pertaining thereto; classification, comparison, revision, and digest of information useful to housekeepers, students, and extension workers; and the dissemination of the results of research.....

22,895.92

## HOME ECONOMICS INVESTIGATIONS.

Total expenditures as above.....	\$29,823.16
Outstanding liabilities, Aug. 31 (estimated).....	368.02
Unexpended balance (estimated).....	102.89

Total allotment.....	30,294.07
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Total..... 30,191.18

## OFFICE OF PUBLIC ROADS AND RURAL ENGINEERING.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.	
\$2,948.88		\$2,000.08	\$753.73	\$1,917.10				\$2,152.01	\$43,230.28	1
199.62		13.42	6.66					282.48	49,711.14	2
293.51		37.25	198.50					2,209.05	142,536.68	3
28.09	\$17.00	2.46	7.00					2,621.14	45,718.97	4
70.40		.05	500.93					42,878.22	57,861.06	5
683.27	1,032.33	497.37	778.45	156.78				4,028.37	108,289.32	6
274.26	326.35	113.76	1,145.73					2,524.09	99,171.73	7
206.68		1.75						102.74	20,851.61	8
							\$28,639.22		28,639.22	9
4,704.71	1,375.68	2,666.14	3,451.00	2,073.88			1 28,639.22	56,798.10	596,010.01	

<sup>1</sup> Road construction under contract.

and conduct of routine office business, including correspondence, maintenance of records, purchase of supplies and equipment, and other clerical work.....

Collection of current data relating to highways: Collection and systematization of all available information and statistics relative to highways, including the maintenance of a current record and the compilation of road legislation; covers all statistical studies except the census of road mileage, revenues, and expenditures made at five-year intervals, and provides necessary information of a general statistical character for the use of persons engaged in or aiding road improvement.....

\$14,978.44

9,183.55

Utilization of convict labor in road management: Study of the management, operation, discipline, and results obtained in convict road camps; testing, under cooperative arrangements with State and local authorities, systems of record, cost keeping, and management devised by this office; and dissemination of the results obtained by these studies and tests.....

\$3,122.89

Observation of experimental convict camps in connection with road management: Determination, by study of a specially operated experimental camp, of the requirements as to camp structures, equipment, sanitation, clothing, diet, organization, discipline, and methods of management in

connection with the use of convict labor for road construction.....	\$2,383.15	road building and correlation of conclusions drawn from laboratory tests with those resulting from field service tests.....	\$15,469.18
Economic studies of selected post roads: Collection of information of an economic character on post roads improved with the aid of an appropriation of \$500,000 carried in the act of Aug. 24, 1912, making appropriations for the Post Office Department; involves studies of the character and amount of traffic, cost of hauling, financial outlay, benefits to the community, and saving to the Government in the operation of rural delivery and parcel post.....	1,473.70	County road systems: Study of the roads of a county or other political subdivision and preparation of general plans and specifications for their administration, improvement, and maintenance.....	6,100.62
Economic studies of county and township highway systems: Study of the organization, procedure, cost of operation, and results obtained in the management of highway systems in counties and townships in various parts of the United States; determination of the types of road, character of materials, and methods of maintenance which are yielding the best results at the least cost, and of the elements of weakness in various local systems of management.....	1,756.45	Inspection, advice, and lectures: Inspections by highway engineers and studies of specific local problems in road construction and maintenance; preparation of definite recommendations for the solution of these problems, and the imparting of this information to road officials, highway associations, mass meetings of citizens, and others who require it.....	51,232.98
Economic studies of State highway departments: Study of the character of organization, working plan, cost of operation, systems of report and record, character of work done, and relative results accomplished by the various State highway departments in the construction and maintenance of roads and bridges.....	12,207.76	Superintendence of county roads: Demonstration to county officials of the advantages accruing from the supervision of all county roads by one skilled in highway construction and maintenance, and the advantages of centralized control over all roads in a county.....	4,612.85
Traffic studies: The assembling of all practicable data on the regulation of traffic, the adaptation of various types of road surface to traffic conditions, and the relation of maintenance methods and cost to traffic requirements.....	311.49	Bridge construction in connection with road building and maintenance: This work consists in furnishing local officials with plans and specifications for bridges and investigating conditions and advising the authorities interested as to the best methods of bridge construction to meet their particular needs and conditions.....	13,338.47
Advice, lectures, and demonstrations of road and bridge models: Expert advice on road legislation, organization, and management upon the request of public officials and organizations, by means of conferences, lectures, and demonstrations, including the use of road models, lantern slides, etc., showing the various phases of road construction and improvement.....	5,474.49	Improvement of roads in national forests: Cooperation with Forest Service in the improvement of roadways in the national forests through advice to local forest officials as to the best methods of constructing and maintaining roads; also making surveys and supervising the construction of roads in the various national forests.....	14,197.61
Total.....	50,891.92	Road maintenance: Studies of the details of systematic maintenance developed by highway departments in representative States and of county-road maintenance in selected counties having improved roads, with a view to the general dissemination of such information among road officials; includes (a) supervision of the maintenance of certain post-road projects for the purpose of determining accurately the relation between the cost of effective maintenance and the available local funds and of determining maintenance costs on various types of roads; (b) supervision of the maintenance of the Washington-Atlanta Highway, demonstration of maintenance methods to county officials, and study of the cost of effective road maintenance in the coastal-plain region; and (c) supervision of the maintenance of the Central Highway in North Carolina from Beaufort to the Tennessee line in such counties as apply for cooperation, demonstration of maintenance methods to county officials, and study of the organization of effective maintenance in the Piedmont and mountain sections of North Carolina.....	15,838.92
ROAD BUILDING AND MAINTENANCE INVESTIGATIONS.		Improvement of post roads: Cooperation with the Post Office Department, under the terms of the act of Aug. 24, 1912, by making inspections, furnishing estimates of cost and other data, and providing the services of engineers to supervise the construction and improvement of highways over which United States mails are carried.....	5,052.42
Total expenditures as above.....	\$142,536.68	Total.....	145,468.90
Outstanding liabilities, Aug. 31 (estimated).....	2,932.22		
Unexpended balance (estimated).....	640.90		
Total allotment.....	146,109.80		
Distributed among the several subactivities as follows:			
Supervision: Direction of the various research and extension activities under this group and conduct of routine office business, including correspondence, maintenance of records, purchase of supplies and equipment, and other clerical work.....	17,113.22		
Investigation of costs of road maintenance: Study of costs of maintenance in counties where roads have been systematically improved under the direction of competent engineers, with a view to secure accurate cost data for various types of road.....	2,512.65		
Object-lesson roads: Demonstration of the proper methods of construction and the most efficient use of materials for the purpose of assisting road officials in the art of			

## ROAD-MATERIAL INVESTIGATIONS.

Total expenditures as above.....	\$45,718.97	tion of physical methods of testing non-bituminous road materials, so that the results obtained by various laboratories may be compared.....	\$1,800.07
Outstanding liabilities, Aug. 31 (estimated).....	1,883.49		
Unexpended balance (estimated).....	355.51		
 Total allotment.....	 <u>47,957.97</u>		
 Distributed among the several subactivities as follows:			
Supervision: Direction of the various subactivities under this group and conduct of routine office work, including correspondence, maintenance of records, purchase of supplies and equipment, preparations of specifications, etc.....	11,591.72		
Routine chemical testing and inspection: Routine chemical tests and inspections of bituminous and nonbituminous dust preventives and road binders, with a view to determine their fitness for particular classes of work, conformity with specifications, etc.; includes the inspection of culvert metal for use in roads built under the supervision of the office.....	3,775.88		
Microscopic examination and classification of road-building rock: General study of rocks in relation to their adaptability for road construction and maintenance, identification of road-building rocks, and determination of the relation of physical properties to mineral composition; investigation of the mineral composition of blast-furnace and open-hearth slags in relation to their road-building qualities.....	1,093.94		
Investigations of dust preventives and road binders: Studies of the effect of methods of production upon the character of bituminous materials, the relative fitness of the various types of bituminous materials for different classes of construction, and the changes which take place in these materials upon exposure to service conditions.....	5,622.50		
Experimental bituminous road construction and maintenance: Development of new types of bituminous-bound and bituminous-treated roads, and the correlation of laboratory experiments with service tests.....	2,684.04		
Physical testing of road-building materials: Determination, by means of physical tests, of the suitability of various materials for use in road construction.....	3,853.82		
Concrete investigations: Investigation of the physical properties of concrete, including studies of the effect of flow, determination of the laws of expansion and contraction of concrete, factors involved in the distribution of stresses in reinforced slabs, study of strength of concrete bases, etc.....	7,159.33		
Nonbituminous road-material investigations: Investigation of the physical properties of nonbituminous road materials, correlation of the results of physical tests with behavior in actual service, and development of tests to meet new conditions in road construction.....	2,917.64		
Instrument making and repairing: Construction and repair of testing machines and instruments required in conducting road-material investigations.....	3,626.58		
Standardization of methods of testing bituminous road materials: Revision of current methods of testing bituminous road materials and development or introduction of new and better methods.....	3,476.94		
Standardization of methods of testing nonbituminous road materials: Standardiza-			
Total.....	<u>47,602.46</u>		
 FIELD EXPERIMENTS.			
Total expenditures as above.....	\$57,861.06		
Outstanding liabilities, Aug. 31 (estimated).....	10,542.42		
Unexpended balance (estimated).....	141.01		
 Total allotment.....	 <u>68,544.49</u>		
 Distributed among the several subactivities as follows:			
Supervision: Direction of the various subactivities under this group and conduct of routine office work.....	1,677.32		
Experimental road construction: Experiments to determine the relative merits and values of various preparations and materials for use in road construction and of the various methods and types of road construction.....	45,167.33		
Traction tests: Investigations of the effect of width of tire, diameter of wheel, type and size of axle bearing, kind of power, and method of application of power on tractive effort required to haul vehicles over various types of road surfaces; collection and study of comparative data on the resistance offered to traction by unimproved and improved road surfaces and by grades in the case of automobiles and horse-drawn vehicles; and determination of the comparative pulling power and sustained effort and its relation to the rations of light and heavy draft animals.....	3,824.64		
Experimental road maintenance: Determination of the cost of maintenance of various types of experimental roads constructed by this office, maintenance cost records being kept for a period of five years or more.	16,536.39		
Road and bridge foundation tests: Determination of the distribution of pressure through fills and foundations and study of the effect of loads on road surfaces and road foundations.....	1,197.80		
Total.....	<u>68,403.48</u>		
 FARM-IRRIGATION INVESTIGATIONS.			
Total expenditures as above.....	\$108,289.32		
Outstanding liabilities, Aug. 31 (estimated).....	3,921.13		
Unexpended balance (estimated).....	823.03		
 Total allotment.....	 <u>113,033.48</u>		
 Distributed among the several subactivities as follows:			
Supervision: Direction of farm-irrigation investigations and conduct of the editorial, clerical, and other routine work.....	10,070.12		
Utilization of water in irrigation: Investigations to determine what constitutes the best utilization of water in irrigation, as to the quantity used and method of applying, to serve as a basis for irrigation practice, for designing canals, pumping plants, and farm ditches, for formulating ditch regulations and contracts, and for the granting and adjudicating water rights.....	58,547.12		

Pumping for irrigation: Study of the adaptation of pumping machinery for the supplying of water for irrigation; determination of the cost of installation, maintenance, and operation of wells and pumping machinery; and technical investigations to develop improvements in the design of pumps for irrigation.....	\$10,037.40	Construction, operation, and maintenance of drainage improvements: Study of the cost and efficiency of machines and implements for digging ditches and building levees under various conditions of work; study of the sizes, types, and arrangement of pumping equipment suitable for drainage works; investigation of the strength and durability of tile, especially of cement tile in alkaline soils; study of the cost of construction, operation, and maintenance of drainage improvements and an analysis of such costs; determination of the rate of depreciation of drainage improvements.....	\$13,230.33
Irrigation appliances and equipment: Development of the best general types of structures and equipment for diverting, transporting, dividing, distributing, and applying water used for irrigation.....	4,260.44	Drainage of peat, turf, and muck soils: Investigation of special problems involved in planning and constructing drainage systems for peat, turf, and muck soils, including the determination of the amount of shrinkage or contraction of such soils after drainage improvements have been constructed, the relative advantages and disadvantages of open ditches and tile drains in such soils, the rapidity with which excess water should be removed, and the height at which the ground water must be maintained to provide sufficient moisture for profitable agriculture.....	1,827.10
Flow of water for irrigation in ditches, pipes, and other conduits: Determination of the accuracy of formulas for the flow of water in conduits of various kinds and the development of new formulas, in order that conduits may be properly designed to carry the water which they are intended to convey.....	4,526.58	Drainage of tillable lands (research): Determination of the proper depth, spacing, and arrangement of tile drains in various types of soils, carrying capacities of tile drains, and the effect of drainage upon the soil temperature: ascertaining the amount of water that should be removed by tile drains per day from various kinds of soils under varying conditions of climate and topography; investigation of the effect of drainage on crop yields; and study of the best methods of terracing to prevent washing and gullying of hillside farm lands.....	13,044.67
Measurement of water for irrigation: Improvement and standardization of devices for measuring water for irrigation, in order to insure the economical use of water from the small streams delivered to individual farmers.....	3,040.85	Organization, financing, and legal regulations of drainage districts: Study of the organization of drainage districts and the laws under which such districts are formed; investigation of the various methods of financing drainage districts; determination of the effect of customs and drainage laws and regulations upon the economical organization of drainage districts; and study of the various methods of assessing costs of drainage improvements.....	2,552.45
Customs, regulations, and laws relating to irrigation: Investigation of the effect of customs, regulations, and laws upon the use of water by farmers under irrigation, upon the economical use of water from the standpoint of the public, and upon the success of irrigation development, with a view to suggest desirable changes.....	5,306.92	Run-off investigations: Determination of the rates of run-off which must be provided for by drainage channels in reclaiming wet lands and of the sizes of ditches necessary to remove the run-off.....	13,890.37
Drainage of irrigated lands: The devising of methods for reclaiming lands which have been injured by overirrigation, by the rise of ground water due to irrigation, or by waste water from irrigation canals or irrigated lands, and the prevention of injury to irrigated lands from these sources; and the handling of general drainage problems in the sections where irrigation is practiced.	13,764.55	Drainage of tidal marshes: Investigation of the cause of failure in many attempts made to reclaim tidal marsh land, and determination of the proper arrangement and size of sluice openings and the requisite storage capacity of ditches; includes studies of the methods of embanking and draining such lands, the cost, and benefits obtained.....	541.57
Expert advice and assistance: Assistance in irrigation development and the improvement of irrigation practices by advising farmers, through correspondence and by personal visits, as to methods and equipment for irrigation.....	2,606.47	Drainage of tillable lands (extension): Instructions to landowners in the proper methods of planning and constructing farm drains and terraces and dissemination of information concerning the benefits to be derived from such improvements.....	29,405.85
Total.....	112,210.45		
<b>FARM-DRAINAGE INVESTIGATIONS.</b>			
Total expenditures as above.....	\$99,171.73		
Outstanding liabilities, Aug. 31 (estimated)..	3,658.91		
Unexpended balance (estimated).....	67.33		
Total allotment.....	102,897.97		
Distributed among the several subactivities as follows:			
Supervision: General direction of farm-drainage investigations, including necessary clerical and other routine work, and the purchase of equipment and supplies not properly chargeable to specific projects...	13,210.71		

Drainage of overflowed lands: Promotion of interest in the reclamation of overflowed lands, through the making of surveys and the preparation of plans for the drainage of representative districts, the holding of meetings of interested landowners to explain the improvements needed, ways of organizing efficiently, etc., with the view of making such lands available for agriculture.....

Drainage of swamp lands: Promotion of interest in the reclamation of swamp lands, through the making of surveys and the preparation of plans for the drainage of representative districts, the holding of meetings of interested landowners to explain the character of improvements needed, the methods which should be pursued in effecting an adequate organization, etc., with the view of utilizing such lands for agricultural purposes.....

Total.....

#### INVESTIGATIONS IN RURAL ENGINEERING.

Total expenditures as above..... \$20,851.61  
Outstanding liabilities, Aug. 31 (estimated)..... 680.01  
Unexpended balance (estimated)..... 164.71

Total allotment.....

3,085.85

102,830.64

21,696.33

Distributed among the several subactivities as follows:

Supervision: General direction of rural-engineering investigations, including necessary clerical, drafting, and other routine work and the purchase of equipment and supplies not properly chargeable to specific projects.....

Investigations of farm domestic water supply and drainage disposal: Improvement of the sanitary conditions of the farms of the country by making available to farmers a knowledge of proper systems of plumbing, water supply, and drainage disposal; also assistance to farmers in installing systems suited to the existing conditions.....

Investigations of the construction of farm buildings: Preparation of drawings for all kinds of farm structures and equipment and for the general layout of the farmstead, with a view to make the work of the farm less arduous and the home life more attractive.

Investigations of rural-engineering problems involving mechanical principles: Investigation of the mechanical principles in

1,286.56

2,474.11

12,332.93

volved in various kinds of farm equipment with a view to standardization and the securing of data which will be of assistance to farmers in selecting equipment; also the designing of new equipment and apparatus.....

\$5,438.02

Total..... 21,531.62

#### IMPROVEMENT OF POST ROADS.

Total expenditures as above..... \$28,639.22  
Unexpended balance..... 5,477.05

Total allotment..... 34,116.27  
Expenditures prior to July 1, 1916..... 465,883.73

Total appropriation..... 500,000.00

The object of this work is to construct improved highways along postal routes for service tests in cooperation with the Post Office Department, States, and counties, for which a special appropriation of \$500,000 was provided under the act of Aug. 24, 1912. The cost of the work to June 30, 1917, is distributed as follows:

Lauderdale County, Ala.....	9,991.48
Boone and Story Counties, Iowa.....	9,999.50
Dubuque County, Iowa.....	24,525.75
Bath County, Ky.....	6,300.00
Montgomery County, Ky.....	6,800.00
Cumberland County, Me.....	65,000.00
Montgomery County, Md.....	14,700.00
Leflore County, Miss.....	50,000.00
Davie County, N. C.....	16,099.25
Iredell County, N. C.....	5,439.60
Forsyth County, N. C.....	3,555.25
McDowell County, N. C.....	10,000.00
Licking and Muskingum Counties, Ohio.....	120,000.00
Jackson County, Oreg.....	9,999.98
Aiken County, S. C.....	10,000.00
Dillon County, S. C.....	34.50
Loudon County, Tenn.....	10,800.00
Montgomery County, Tenn.....	10,000.00
Bexar County, Tex.....	14,110.00
Comal County, Tex.....	21,485.00
Guadalupe County, Tex.....	3,050.00
Hayes County, Tex.....	23,020.00
Travis County, Tex.....	14,957.20
Caroline County, Va.....	1,906.07
Hanover County, Va.....	9,000.00
Spotsylvania County, Va.....	6,849.37
Fairfax County, Va.....	16,900.00

494,522.95

## OFFICE OF MARKETS AND RURAL ORGANIZATION.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.				Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund		Total.		Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.						
1 Administration.....	\$49,713.36	\$11,912.50	-----	\$61,625.86	\$985.64	-----	\$1,463.11	\$1,670.79	
2 Marketing and distribution.....	24,139.51	129,225.47	\$19,609.16	172,974.14	48,071.76	-----	4,057.51	8,676.24	
3 Collecting and distributing market information.....	13,149.24	34,518.78	24,912.44	72,580.46	11,718.15	-----	1,107.52	6,826.45	
4 Market reports on live stock and meats.....	2,651.99	17,037.22	6,785.58	26,474.79	6,253.10	-----	1,048.76	5,362.23	
5 Investigations and demonstrations of cotton standards.....	1,548.34	13,065.83	671.50	15,285.67	3,104.82	-----	37.70	91.53	
6 Cotton testing.....	3,854.17	11,391.22	593.75	15,839.14	3,202.91	-----	46.95	115.84	
7 Rural organization.....	5,396.00	21,787.52	150.00	27,333.52	5,231.97	-----	176.54	325.81	
8 State cooperation in marketing work.....	-----	2,707.36	18,593.03	21,300.39	3,513.02	-----	322.06	690.13	
9 Enforcement of the cotton-futures act.....	12,745.72	52,088.16	5,024.45	69,858.33	7,882.10	-----	326.00	1,846.11	
10 Enforcement of the grain-standards act.....	907.50	27,466.40	63,541.94	91,915.84	18,474.22	-----	8,199.13	16,893.51	
11 Administration of the warehouse act.....	-----	3,618.35	13.50	3,631.85	418.31	-----	491.20	419.46	
Total.....	114,105.83	324,818.81	139,895.35	578,819.99	108,856.00	-----	17,276.48	42,918.10	

## PROJECT STATEMENTS.

## ADMINISTRATION.

Total expenditures as above.....	\$68,735.89
Outstanding liabilities, Aug. 31 (estimated). . . . .	96.67
Unexpended balance (estimated).....	187.05

Total allotment.....	69,019.61
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Supervision of the research, service, extension, and regulatory work of this office and the execution of the necessary administrative details connected therewith.....	68,832.56
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## MARKETING AND DISTRIBUTION.

Total expenditures as above.....	\$268,417.76
Outstanding liabilities, Aug. 31 (estimated). . . . .	38,354.82
Unexpended balance (estimated).....	3,322.34

Total allotment.....	310,094.92
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Distributed among the several subactivities as follows:

Cotton handling and marketing: Investigation of the commercial processes involved in the handling, marketing, and utilization of cotton, in order to make recommendations as to improvements and economies; investigational work in connection with the organization of communities of cotton growers for the marketing of their product; and experiments regarding the advantage of growing cotton from pure seed in these communities.....

Cooperative purchasing and marketing: Investigation of cooperative and semicooperative associations formed for the purpose of marketing and distributing or purchasing farm products and of the forms of organization and methods of management best suited for their use.....

Market surveys, methods, and costs: Comprehensive and detailed studies of the origin, movement, distribution, and consumption of market supplies of farm products, especially fruits and vegetables, in order to accumulate and disseminate use-

ful information relating to all phases of the subject, including available and prospective production; movement of products into storage; the various agencies by and through which farm products are handled, distributed, stored, and sold; costs of doing business through existing market channels; methods of inspection in vogue; the value and practicability of an inspection service; and other matters.....

Market grades and standards: Investigation and demonstration of proper methods of preparing fruits and vegetables for market, and development of fixed grades and standards for universal use, with a view to the ultimate national standardization of market grades and packages or containers

City marketing and distribution: Investigation of the distribution and marketing of farm products in cities, in order to determine and encourage the practice of the best methods and to extend advisory aid to city authorities and other interested persons in establishing economical and efficient marketing facilities.....

Transportation and storage: Investigation of the service furnished throughout the United States by common carriers of every kind in the transportation of farm products, particularly perishables, and of the need for more and better service in individual sections in connection with particular commodities; cooperation with shippers in securing, and with carriers in inaugurating, such service; dissemination of information to carriers as to the greater needs of shippers in transportation service, and bringing to shippers a better understanding of their rights, duties, and joint responsibilities with the carriers in the safe transportation of their products to the consumer; cooperation with shippers and carriers in a campaign of education for the use of better packages and better methods of harvesting, packing, and loading, so as to reduce the present great

\$81,540.77

19,990.46

9,872.62

## OFFICE OF MARKETS AND RURAL ORGANIZATION.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.
\$859.23		\$487.90	\$17.42					\$1,625.94	\$68,735.89
10,106.95	\$502.00	9,863.93	1,153.67					13,011.56	268,417.76
14,410.90	2,584.16	27,007.50	1,033.67					6,849.31	144,118.12
3,033.29	450.00	8,931.07	282.54					3,283.63	55,119.41
338.70		40.30	30.81					878.99	19,808.52
131.89		37.47	604.60					9,751.87	29,730.67
245.00		59.34	2.19					375.90	33,750.27
1,109.68		69.39	153.56					912.59	28,070.82
554.76	2,654.96	1,130.57	2,229.38					50,032.82	136,515.03
782.98	22,102.77	1,376.70	2,788.75					16,954.34	179,488.24
161.76	1,775.74	104.81	14.25					158.23	7,175.61
31,735.14	30,069.63	49,108.98	8,310.84					103,835.18	970,930.34

economic loss of foodstuffs in transit; encouraging the proper construction of common storage houses wherever desirable; accurate determination of the amount, kind, and location of all available public storage space in the United States for foodstuffs (except grains), as well as its ownership and the rates charged for its use; ascertaining the relative quantity of foodstuffs held in public storage, as well as that held in private storage for sale, the points at which these foodstuffs are so held, and the relation of these points to producing sections, the length of time they are held, and the effect upon prices of holding them.....

Miscellaneous problems in marketing and cooperation: Cooperation with other governmental agencies already conducting investigations in the marketing of specific products; and study of new lines relative to the preparation, handling, preservation, and marketing of food and miscellaneous products not specifically provided for in other projects.....

Marketing by parcel post and express: Determination of the feasibility, both from a physical and economic viewpoint, of marketing farm products by parcel post and by express from producer to consumer direct, and ascertaining the best methods to be used.....

Marketing live stock, meats, and animal by-products: Conduct of a thorough study of existing markets and methods of marketing live stock through the large central and small local markets, including transportation, yardage, sale, and delivery of live stock and the slaughter, packing, and wholesale and retail distribution of meat products and by-products derived therefrom; classification and grading of live stock and meats; and other allied subjects, with a view to improve the methods and reduce the cost of marketing live stock, meats, and animal by-products....

Market business practice: Investigation of the business practices of cooperative and

\$16,060.60

25,516.84

13,031.56

20,054.96

farmers' marketing, distributing, purchasing, and rural business organizations and other marketing agencies, with special reference to their accounting systems and methods of auditing, business organization, and financing, and the devising of suitable methods of business practice and accounting systems for these organizations and agencies for the purpose of increasing their efficiency.....

\$28,178.71

Marketing grain, hay, and seeds: Study of the primary and terminal marketing of grain, seeds, and hay, including the cost of marketing; comparison of services rendered by independent and line elevators and cooperative purchasing and selling associations; future transactions and exchange practices, scalping, prices, market quotations, supply and demand, export trade, and related subjects, in order to suggest possible improvements and economies in marketing the grain, seed, and hay crops.....

24,167.96

Marketing cotton seed and its products: Investigation of present methods of handling, marketing, and utilizing cotton seed and its crude products, with a view to suggest means whereby improvements may be made and economies effected; and studies regarding future trading, the establishment of standard grades, and the standardization of conditions under which cotton seed and its products are handled and stored.....

3,203.01

Marketing dairy products: Study of the marketing of dairy products and dairy substitutes, including the agreements under which they are sold, the methods and costs of their preparation for market, market grades and classification of dairy products, market quotations and quotation systems, market requirements and conditions, marketing methods and facilities, and related subjects, in order to suggest measures by which market conditions and marketing methods may be improved and the cost of marketing dairy products reduced.....

15,672.95

Cotton warehousing investigations: Accumulation and dissemination of useful information relating to the warehousing of cotton, insurance rates while in storage, and benefits, including better arrangements for financing, to be derived from conserving cotton in storage houses, the construction of different types of warehouses, and the relation of present methods and practices of compressing cotton to warehousing.....

\$11,373.56

Foreign market investigations: Investigation of foreign markets for American farm and nonmanufactured food products, from the handling at the American seaboard to the distribution in foreign countries, and assistance in the development of the export trade in such products; investigation especially of the export facilities at the American seaboard and beyond, the methods and costs of physically handling products intended for shipment abroad, transoceanic and foreign transportation, the methods of distribution and sale in foreign countries, their sources of supply, the consumptive demand, trade practices and preferences, and the various competitive factors encountered abroad by American producers and shippers; incidentally investigation of successful foreign systems, cooperative and otherwise, for purchasing farm supplies and marketing farm products, including a study of representative consumers' organizations, municipal markets, and the conditions under which they have been developed; and the investigation of the importation by the United States of farm and nonmanufactured food products and the influence of such imports on the domestic markets.....

6,470.36

Total..... 306,772.58

## COLLECTING AND DISTRIBUTING MARKET INFORMATION

Total expenditures as above..... \$144,118.12  
Outstanding liabilities, Aug. 31 (estimated). 15,294.04  
Unexpended balance (estimated)..... 2,437.08

161,849.24

Collection and distribution, by telegraph, mail, or otherwise, of timely information on the supply, commercial movement, disposition, and market prices of fruits and vegetables, and assistance to shippers in securing better distribution of perishable products.....

159,412.16

## MARKET REPORTS ON LIVE STOCK AND MEATS.

Total expenditures as above..... \$55,119.41  
Outstanding liabilities, Aug. 31 (estimated). 5,036.49  
Unexpended balance (estimated)..... 996.09

61,151.99

Gathering, compiling, and publishing, at such frequent intervals as will most effectively guide producers, consumers, and distributors in the sale and purchase of

live stock, meats, and other animal products, information concerning market supplies, prices, and distribution of such products and on related subjects.....

\$60,155.90

## INVESTIGATIONS AND DEMONSTRATIONS OF COTTON STANDARDS.

Total expenditures as above..... \$19,808.52  
Outstanding liabilities, Aug. 31 (estimated). 330.33  
Unexpended balance (estimated)..... 577.16

Total allotment..... 20,716.01

Field and laboratory investigations and demonstrations of standards for the different grades, qualities, and conditions of cotton, and investigations of the ginning, grading, baling, stapling, marking, compressing, and tare of cotton.....

20,138.85

## COTTON TESTING.

Total expenditures as above..... \$29,730.67  
Outstanding liabilities, Aug. 31 (estimated). 1,324.48  
Unexpended balance (estimated)..... 1,169.02

Total allotment..... 32,224.17

Determination of the waste, tensile strength, and bleaching qualities of the different grades, classes, and varieties of cotton, in order to ascertain their commercial and spinning value and to demonstrate the results of such tests.....

31,055.15

## RURAL ORGANIZATION.

Total expenditures as above..... \$33,750.27  
Outstanding liabilities, Aug. 31 (estimated). 1,427.30  
Unexpended balance (estimated)..... 779.10

Total allotment..... 35,956.67

Distributed among the several subactivities as follows:

Rural credit, insurance, and communication: Investigation of the problems relating to the organization of rural communities for the purpose of obtaining better credit, insurance, and communication facilities by the accumulation and dissemination of useful information relating to the various phases of the subject.....

22,064.53

Rural social and educational activities: Improvement of social and educational conditions in rural communities by the accumulation and dissemination of useful information growing out of a study of typical communities with reference to their social and educational needs, the work of their existing forms of organization, and the possibilities for improvement through organized activity; investigation of methods of encouraging social organization activities and study of means of improving social, economic, and educational conditions of women and children through the work of women's rural organizations.....

13,113.04

Total..... 35,177.57

## STATE COOPERATION IN MARKETING WORK.

Total expenditures as above.....	\$28,070.82
Outstanding liabilities, Aug. 31 (estimated).....	2,509.65
Unexpended balance (estimated).....	919.53
 Total allotment.....	 31,500.00

Cooperation with the several States in the employment of agents to study methods of marketing and distributing farm products; assistance in the coordination of marketing activities undertaken by the various States; and dissemination throughout the States cooperating with this project of the results of the department's investigations relative to marketing and distributing farm products.....	30,580.47
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## ENFORCEMENT OF THE COTTON-FUTURES ACT.

Total expenditures as above.....	' \$136,515.03
Outstanding liabilities, Aug. 31 (estimated).....	8,628.07
Unexpended balance (estimated).....	31,946.02
 Total allotment.....	 177,089.12

Distributed among the several subactivities as follows:

Administration: Supervision and direction of investigational and regulatory activities incident to the enforcement of the United States cotton-futures act and of the rules and regulations of the Secretary of Agriculture thereunder, and the performance of such executive and clerical duties as may be necessary in connection therewith.....	10,596.50
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Determination of disputes: Hearing and determining disputes as to the grade, quality, or length of staple of cotton tendered in settlement of future contracts made in compliance with section 5 of the cotton-futures act and referred to the Secretary of Agriculture under the terms of the act for determination of facts; and drawing up memoranda of conclusions upon which are based the Secretary's findings in cases of dispute.....	15,874.11
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Investigations of future and spot markets for cotton: Investigation of future markets for cotton to ascertain how accurately their future quotations reflect spot values; collection of general information as to conditions within the future exchanges; investigation of spot markets to determine their fitness for designation as bona fide spot markets; securing daily reliable quotations for cotton from each of the designated spot markets; and inspection of the designated bona fide spot markets from time to time.....	14,322.31
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Preparation and distribution of the official cotton standards: Preparing and distributing practical forms of the official cotton standards of the United States for grades of white cotton, promulgated by the Secretary of Agriculture on Dec. 15, 1914, under section 9 of the United States cotton-futures act, and practical forms of the official standards for colored cotton, promulgated by the Secretary of Agriculture on Jan. 28, 1916, under the same section of that act; and inspection of these copies of the standards, condemning them when necessary and replacing them upon request..... \$104,350.18

Total..... 145,143.10

## ENFORCEMENT OF THE GRAIN-STANDARDS ACT.

Total expenditures as above.....	\$179,488.24
Unexpended balance (June 30).....	2 71,419.26
 Total allotment.....	 250,907.50

Supervision and direction of the investigational and regulatory activities involved in the enforcement of the United States grain-standards act and of the rules and regulations of the Secretary of Agriculture thereunder; determination of the competence of persons applying for licenses to inspect and grade grain and to certificate the grade thereof, and the issuance of licenses to qualified persons; suspension or revocation of such licenses when necessary; hearing and determination of appeals and disputes which may be referred to the Secretary of Agriculture in accordance with the rules and regulations promulgated under the act; preparation of findings in each case; review of analyses and separations of samples submitted in connection with appeals and disputes .. 179,488.24

## ADMINISTRATION OF THE WAREHOUSE ACT.

Total expenditures as above.....	\$7,175.61
Unexpended balance (June 30).....	3 42,824.39
 Total allotment.....	 50,000.00

Inspection and classification of warehouses applying for licenses under the United States warehouse act; licensing warehouses that are found to be suitable for the proper storage of cotton, grain, flaxseed, wool, and tobacco; and licensing qualified persons to classify any agricultural product or products stored or to be stored in a warehouse licensed under this act, according to grade, weight, or class of the product stored..... 7,175.61

<sup>1</sup> Includes \$43,593.40 expended to June 30, 1917, from the continuing appropriation of \$150,000 made available by a special act of Congress approved Aug. 18, 1914.

<sup>2</sup> Balance from continuing appropriation of \$250,000 carried in agricultural appropriation act for the fiscal year 1917, available for expenditure during the fiscal year 1918.

<sup>3</sup> Balance from continuing appropriation of \$50,000 carried in agricultural appropriation act for the fiscal year 1917, available for expenditure during 1918.

## INSECTICIDE AND FUNGICIDE BOARD.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.				Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.		Total.		Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.						
Enforcement of the insecticide act....	\$24,375.32	\$39,411.62	\$7,854.51	\$71,641.45	\$9,749.57	\$8.03	\$289.90	\$1,289.31	

## PROJECT STATEMENT.

## ENFORCEMENT OF THE INSECTICIDE ACT.

Total expenditures as above.....	\$93,210.06
Outstanding liabilities, Aug. 31 (estimated).....	4,159.50
Unexpended balance (estimated).....	7,630.44
<b>Total allotment.....</b>	<b>105,000.00</b>

## FEDERAL HORTICULTURAL BOARD.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.				Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.		Total.		Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.						
Enforcement of the plant-quarantine act....	\$12,080.35	\$24,719.31	\$17,979.98	\$54,779.64	\$8,413.84	\$545.23	\$1,972.14	\$1,112.42	

## PROJECT STATEMENT.

## ENFORCEMENT OF THE PLANT-QUARANTINE ACT.

Total expenditures as above.....	\$70,418.05
Outstanding liabilities, Aug. 31 (estimated).....	751.43
Unexpended balance (estimated).....	73,651.75
<b>Total allotment.....</b>	<b>144,821.23</b>

Distributed among the several subactivities as follows:

Administration: Conduct of administrative and clerical work necessary for the proper enforcement of the plant-quarantine act.....	13,208.03
Control of entry of plants and plant products under regulations: Foreign inspection and certification of nursery stock and other plants and plant products under regulation; prompt notification of arrival and proposed distribution, and provision for the proper inspection, either at port of entry or at place of destination, of such imports.....	43,008.14

## INSECTICIDE AND FUNGICIDE BOARD.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.
\$925.21	\$1,204.20	\$132.61	\$641.54	.....	.....	\$190.00	1 \$491.48	\$6,646.71	\$93,210.06

<sup>1</sup> Cleaning and toilet supplies, \$339.95; mechanics' and electricians' supplies, \$151.53.

Distributed among the several subactivities as follows:

Administration: Supervisory work in connection with the enforcement of the insecticide act, including maintenance of necessary records, fiscal operations, correspondence, inspection work, etc. ....	\$36,366.19
Chemical, microscopic, and bacteriological examination of insecticides and fungicides other than those used on horses, cattle, sheep, swine, or goats. ....	34,572.25
Testing the efficacy of fungicides and the action on vegetation of insecticides and fungicides. ....	9,711.98
Testing the efficacy of insecticides and the action on vegetation of insecticides. ....	10,722.07
Chemical and bacteriological examination of insecticides and fungicides used on horses, cattle, sheep, swine, or goats, and efficacy tests of same. ....	5,997.07
<b>Total. ....</b>	<b>97,369.56</b>

## FEDERAL HORTICULTURAL BOARD.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.
\$813.59	\$424.46	\$531.29	\$560.72	\$8.35	.....	.....	1 \$620.34	\$636.03	\$70,418.05

<sup>1</sup> Publication of quarantine notices, \$620.34.Foreign plant quarantines: Prevention, under existing quarantines, of the entry of plant material affected with white-pine blister rust, potato wart, powdery scab of potato, Mexican fruit fly, avocado weevil, the pink bollworm of cotton, European pine-shoot moth, citrus canker, and other citrus diseases, *Sclerospora maydis* disease of Indian corn, and insect enemies and plant diseases of sugar cane; and provision for like control by quarantine of any new danger that may arise. ....

Domestic plant quarantines: Prevention, under existing quarantines, of the further distribution within the United States of the Mediterranean fruit fly and melon fly, the gipsy moth and brown-tail moth, the date-palm scale insects, the powdery scab of potato, the pink bollworm of cotton, and insect enemies and plant diseases of sugar cane; and, by future quarantine, control of any new pest that may appear. ....

Preventing the entrance and establishment of the pink bollworm of cotton. ....

Plant-quarantine investigations: Investigation of insect and plant-disease conditions as a basis for needed quarantine action. ....

**Total. ....** **71,169.48**

\$2,688.01

6,451.22

4,201.27

1,612.81

## ACQUISITION OF LANDS UNDER THE WEEKS FORESTRY LAW.

*Classification of expenditures for the fiscal year ended June 30, 1917.*

Project.	Salaries.				Travel, station, and field expenses.	Equipment.			
	Statutory.	Lump fund.		Total.		Apparatus, instruments, laboratory.	Furniture.	Miscella- neous.	
		In Wash- ington.	Out of Washington.						
1 National Forest Reservation Commission.									
Acquisition of lands:									
2 Forest Service.....		\$11,587.20	\$56,200.52	\$67,787.72	\$16,864.17			\$190.92	
3 Solicitor's office.....		2,563.33	40,549.97	43,113.30	8,423.64				
4 Purchase of lands.....									
Total.....		14,150.53	96,750.49	110,901.02	25,287.81			190.92	

## PROJECT STATEMENTS.

## NATIONAL FOREST RESERVATION COMMISSION.

Total expenditures as above.....	\$53.35
Unexpended balance.....	24,946.65
Total appropriation.....	25,000.00

This commission, consisting of the Secretary of War, the Secretary of the Interior, the Secretary of Agriculture, two members of the Senate, and two members of the House of Representatives, considers and passes upon lands recommended for purchase under the provisions of sec. 6 of the Weeks forestry law (act approved Mar. 1, 1911), and fixes the price or prices at which such lands may be purchased.....

Forest Service: As provided in section 6 of the Weeks forestry law, the Forest Service, by direction of the Secretary of Agriculture, examines, locates, and recommends for purchase such lands as in the judgment of the Secretary may be necessary for the regulation of the flow of navigable streams, reporting to the National Forest Reservation Commission the results of such examinations.....

\$92,419.42

Solicitor's office: As provided in sec. 8 of the Weeks forestry law, the Solicitor's office of the Department of Agriculture, by direction of the Secretary of Agriculture, makes all the necessary examinations of title records to secure safe title in the United States to the lands to be acquired under this law, no payment being made, however, until the title is satisfactory to and approved by the Attorney General and vested in the United States.....

52,564.56

Purchase of lands: During the fiscal year ended June 30, 1917, the payments for the actual purchase of lands acquired under the Weeks forestry law amounted to.....

1,866,346.71

Total..... 2,011,330.69

## ACQUISITION OF LANDS.

Total expenditures as above.....	\$2,011,330.69
Unexpended balance June 30, 1917 (available for further disbursement).....	12,553,908.11
Total available July 1, 1916.....	4,565,238.80

The cost of the work, including administrative expenses and purchase of lands, is distributed as follows:

<sup>1</sup> Includes \$1,954,609.32, covered by executed contracts on which no actual payment had been made up to June 30, 1917, and \$599,298.79, balance available for encumbrance during the fiscal year 1918.

## ACQUISITION OF LANDS UNDER THE WEEKS FORESTRY LAW.

Classification of expenditures for the fiscal year ended June 30, 1917.

Stationery.	Rent.	Telegraph, telephone, and postage.	Freight, express, and drayage.	Furnishing of heat, light, power, electricity.	Forage purchased in bulk.	Fuel.	Specified items not otherwise classified.	Miscellaneous supplies, services, etc.	Total.	
							1 \$53.35	.....	\$53.35	1
\$1.35	\$369.00 561.70	\$98.29 57.50	\$222.62 84.64	.....		\$25.83	2 81.00 1 68.65	\$6,805.70 227.95	92,419.42 52,564.56	2 3
							3 1,866,346.71	.....	1,866,346.71	4
1.35	930.70	155.79	307.26	.....		25.83	1,866,549.71	7,033.65	2,011,384.04	

<sup>1</sup> Printing and binding.<sup>2</sup> Options for purchase of lands.<sup>3</sup> Lands purchased.

## SUMMARY OF EXPENDITURES OF THE DEPARTMENT OF AGRICULTURE.

The total expenses of the Department of Agriculture for the fiscal year ended June 30, 1917, were \$26,524,211.40; of which amount \$26,067,741.83 was paid and \$456,469.57 represented outstanding liabilities on Aug. 31, 1917. The payments were classified as follows:

Statutory salaries..... \$5,082,660.92

Lump-fund salaries:

In Washington..... 2,643,787.21

Out of Washington..... 10,410,325.97

Travel, station, and field expenses..... 2,419,432.62

Equipment:

Apparatus, instruments, and laboratory..... 94,024.04

Furniture..... 96,462.52

Miscellaneous..... 806,187.40

Stationery..... 239,500.25

Rent..... 422,102.45

Telegraph, telephone, and postage..... 380,856.58

Freight, express, and drayage..... 229,767.82

Furnishing of heat, light, power, and electricity..... 31,602.27

Forage purchased in bulk.....	\$199,591.86
Fuel.....	54,595.61
Land, including acquisitions under the Weeks forestry law.....	1,868,136.86
Structures and parts and nonstructural improvements to land.....	88,582.47
Purchase of animals for experimental and control purposes.....	45,058.10
Road construction under contracts.....	28,639.22
Unclassified items, including mechanics', engineers', and electricians' supplies; printing, engraving, lithographing, and binding; subsistence and care of animals and storage and care of vehicles; cleaning and toilet supplies, and advertising and publication of notices.....	67,787.04
Total.....	26,067,741.83









